

**The New York
Academy of Medicine**



*Gift from the
Publisher*



Digitized by the Internet Archive
in 2016

B

Southwestern MEDICINE

Official Journal of The Southwestern Medical Association, The Western Association of Railway Surgeons, The Texas Orthopaedic Association, The Southwest Obstetrical and Gynecological Society, The Southwestern Dermatological Society, Texas District One Medical Association, The Southwestern New Mexico Medical Society, and El Paso County Medical Society

42
1961

IN THIS ISSUE

Dr. John F. Wanless of San Diego New President of Southwest OB-GYN Society	Page 17
Dr. Louis W. Breck Elected President of El Paso County Medical Society	Page 19
Dr. Louis E. Jones of Roseville, Calif., Heads Western Railway Surgeons	Page 20
Infantile Eczema in General Practice	Page 22
Peritoneal Dialysis	Page 27
Management of Urinary Tract Infections	Page 30
Clinical Pathological Conference R. E. Thomason General Hospital, El Paso	Page 32

LIBRARY
JAN 23 1961
NEW YORK ACADEMY
OF MEDICINE

COMPLETE CONTENTS ON PAGE 8

DISTRICT ONE, TEXAS MEDICAL ASSOCIATION
ANNUAL MEETING, PECOS, FEB. 3

January, 1961



Founded 1916

*an antibiotic improvement
designed to provide
greater therapeutic effectiveness*

LIBRARY

JUL 26 1962

NEW YORK ACADEMY
OF MEDICINE

343237

now
Pulvules
Ilosone[®]

(propionyl erythromycin ester lauryl sulfate, Lilly)

*in a more acid-stable form
assure adequate absorption even when taken with food*

Ilosone retains 97.3 percent of its antibacterial activity after exposure to gastric juice (pH 1.1) for forty minutes.¹ This means there is more antibiotic available for absorption—greater therapeutic activity. Clinically, too, Ilosone has been shown^{2,3} to be decisively effective in a wide variety of bacterial infections—with a reassuring record of safety.⁴

Usual dosage for adults and for children over fifty pounds is 250 mg. every six hours.
Supplied in 125 and 250-mg. Pulvules and in suspension and drops.

1. Stephens, V. C., *et al.*: J. Am. Pharm. A. (Scient. Ed.), 48:620, 1959.
2. Salitsky, S., *et al.*: Antibiotics Annual, p. 893, 1959-1960.
3. Reichelderfer, T. E., *et al.*: Antibiotics Annual, p. 899, 1959-1960.
4. Kuder, H. V.: Clin. Pharmacol. & Therap., in press.

ELI LILLY AND COMPANY • INDIANAPOLIS 6, INDIANA, U. S. A.

032644



IN EMOTIONALLY PROJECTED
SMOOTH-MUSCLE SPASM...

Prompt, Profound
Protection...at both
ends of the vagus

PRO-BANTHINE®
with **DARTAL®**

Professional reliance on the therapeutic proficiency of Pro-Banthine in functional gastrointestinal disorders has made it the most widely prescribed anticholinergic.

The consistent relief of emotional tensions afforded by Dartal makes this well-tolerated tranquilizer a rational choice to support the antispasmodic action of Pro-Banthine in emotionally influenced smooth-muscle spasm.

These two reliable agents combined as Pro-Banthine with Dartal consistently control both disturbed mood and disordered motility when emotional disturbances project themselves through the vagus to provoke such gastrointestinal dysfunctions as gastritis, pylorospasm, peptic ulcer, spastic colon or biliary dyskinesia.

USUAL ADULT DOSAGE:

One tablet three times a day.

SUPPLIED as aqua-colored, compression-coated tablets containing 15 mg. of Pro-Banthine (brand of propantheline bromide) and 5 mg. of Dartal (brand of thiopropazate dihydrochloride).

G. D. SEARLE & CO.

Chicago 80, Illinois
Research in the Service of Medicine



Southwestern Medicine

*The U. S.-Mexico Regional Medical Journal Serving West
Texas, New Mexico, Arizona, Nevada and Northern Mexico*

Official Journal of

The Southwestern Medical Association, The Western Association of
Railway Surgeons, The Texas Orthopaedic Association, The
Southwest Obstetrical and Gynecological Society, The
Southwestern Dermatological Society, Texas District
One Medical Association, The Southwestern New
Mexico Medical Society, and El Paso County
Medical Society

VOL. XLII JANUARY, 1961 No. 1

BOARD OF MANAGERS

Sherwood Burr, M.D.	Leland Evans, M.D.
Harold J. Beck, M.D.	Darwin Neubauer, M.D.
David Russek, M.D.	Carlos Tapia, M.D.
M. D. Thomas, M.D.	Louis W. Breck, M.D.
John Dettweiler, M.D.	H. D. Garrett, M.D.
Russell L. Deter, M.D.	Jack A. Bernard, M.D.
Louis G. Jekel, M.D.	Morton H. Leonard, M.D.
John F. Wanless, M.D.	

EDITOR

Lester C. Feener, M.D.
404 Banner Building, El Paso, Texas

MANAGING EDITOR

Louis W. Breck, M.D.
1220 North Stanton Street, El Paso, Texas

ASSOCIATE EDITORS

Branch Craige, M.D. Maurice P. Spearman, M.D.

ADVERTISING AND SUBSCRIPTION OFFICES

Mott, Reid & McFall
Publishers

310 N. Stanton St., El Paso, Texas

Publication Office

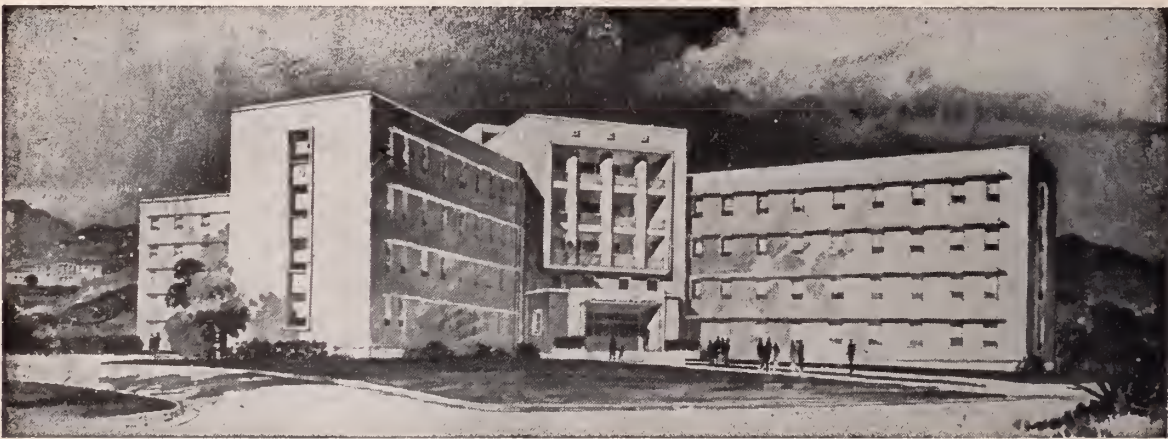
265 Texas St., Fort Worth, Texas

Subscription Price \$5.00 — Single copies 50c

Published Monthly

Gordon M. Marshall — National Advertising Representative
30 West Washington Street, Chicago, Ill., Dearborn 2-5148;
Eastern Office — John H. Hinse, Room 340, 15 West 44th Street
New York 36, Oxford 7-5262.

Second-class mail privileges authorized at Fort Worth, Texas.
Postmaster: All undeliverable copies returnable under Form 3579
should be to Southwestern Medicine, 310 North Stanton Street,
El Paso, Texas.



Providence Memorial Hospital

The Modern Hospital of the Southwest

APPROVED BY THE JOINT COMMISSION ON ACCREDITATION OF HOSPITALS

COMPLETE DIAGNOSTIC and TREATMENT FACILITIES

ISOTOPE THERAPY AND STUDIES

COBALT 60 ROTATIONAL TELE THERAPY UNIT

OUTSTANDING CHEMISTRY LABORATORY

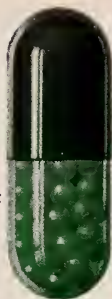
FACILITIES FOR PSYCHIATRIC THERAPY

ELECTROENCEPHALOGRAPHIC LABORATORY

2001 North Oregon Street

• El Paso, Texas

Hard filled
capsules in
bottles of 30.



4 mg.

Medrol^{*} Medules[†]

pH-patterned
slow release ...

not here
at pH 1.2

In the relatively acid
medium of the fasting
stomach, Medules are
kept essentially intact by
their special pH-sensitive
coating (about 5% of
Medrol content released
in 2 hours at pH 1.2).

but here
at pH 7.5

In the environment of the
duodenum (at pH of
approximately 7.5) 90%
to 100% of the Medrol
content is released
within 4 hours.

135 tiny
doses mean
smoother**
steroid
therapy



(**So smooth and pro-
tracted that even among
rheumatoid arthritis
patients "morning stiffness
in a great majority of
these patients just doesn't
exist any more. They
wake up comfortable."
Iuppa, N. V.: Curr. Therap.
Res. 2:177 (June) 1960.)

... means
gradual steroid
absorption.

Medrol hits the disease,
but spares the patient

Upjohn

The Upjohn Company
Kalamazoo, Michigan

*Trademark, Reg. U. S. Pat. Off.—
methylprednisolone, Upjohn
†Trademark



*The
Extra
Measure
of
Caution...*

Tetracycline now combined with the new, more active antifungal antibiotic—Fungizone—for broad spectrum therapy/antimonial prophylaxis

A new advance in broad spectrum antibiotic therapy, MYSTECLIN-F provides all the well-known benefits of tetracycline and also contains the new, clinically proved antifungal antibiotic, Fungizone. This Squibb-developed antibiotic, which is unusually free of side effects on oral administration when given in oral prophylactic doses, has substantially greater in vitro activity than nystatin against strains of *Candida* (*Monilia*) *albicans*.

Thus, in addition to providing highly effective broad spectrum therapy, MYSTECLIN-F prevents the monial overgrowth in the gastrointestinal tract so commonly associated

with such therapy. It helps to protect the patient from troublesome, even serious, monial complications.

New Mysteclin-F provides this added antifungal protection at little increased cost to your patients over ordinary tetracycline preparations.

Available as: MYSTECLIN-F CAPSULES (250 mg./50 mg.) MYSTECLIN-F HALF STRENGTH CAPSULES (125 mg./25 mg.) MYSTECLIN-F FOR SYRUP (125 mg./25 mg. per 5 cc.) MYSTECLIN-F FOR AQUEOUS DROPS (100 mg./20 mg. per cc.)

For complete information, consult package insert or write to Professional Service Department, Squibb, 745 Fifth Avenue, N. Y. 22, N. Y.

SQUIBB



*Squibb Quality—
the Priceless Ingredient*

**NEW
MYSTECLIN-F**

Squibb Phosphate-Potentiated Tetracycline (SUMYCIN) plus Amphotericin B (FUNGIZONE)

*MYSTECLIN-F, SUMYCIN, and FUNGIZONE are SQUIBB TRADEMARKS

who coughed?



WHENEVER COUGH THERAPY
IS INDICATED

HYCOMINE[®]

Syrup

THE COMPLETE Rx FOR COUGH CONTROL

*cough sedative / antihistamine
decongestant / expectorant*

■ relieves cough and associated symptoms
in 15-20 minutes ■ effective for 6 hours or
longer ■ promotes expectoration ■ rarely
constipates ■ agreeably cherry-flavored

Each teaspoonful (5 cc.) of HYCOMINE[®] Syrup contains:
Hycodan[®]

Dihydrocodeinone Bitartrate	5 mg.	} 6.5 mg.
(Warning: May be habit-forming)		
Homatropine Methylbromide	1.5 mg.	

Pyrilamine Maleate	12.5 mg.
Phenylephrine Hydrochloride	10 mg.
Ammonium Chloride	60 mg.
Sodium Citrate	85 mg.

Average adult dose: One teaspoonful after meals and at
bedtime. May be habit-forming. Federal law permits oral
prescription.



Literature on request

ENDO LABORATORIES
Richmond Hill 18, New York

Contents

Dr. John F. Wanless of San Diego New President of Southwest OB-GYN Society	Page 17
Dr. Louis W. Breck Elected President of El Paso County Medical Society	Page 19
Dr. Louis E. Jones of Roseville, Calif., Heads Western Railway Surgeons	Page 20
Symposium on Aged, Speakers Featured at TMA Conference	Page 21
Infantile Eczema in General Practice By Frederic Speer, M.D., Kansas City, Kan.	Page 22
Coming Meetings	Page 26
Peritoneal Dialysis By R. C. Derbyshire, M.D., Santa Fe	Page 27
The Management of Urinary Tract Infections By J. Haas, M.D., and L. L. Kay, M.D., New York	Page 30
Clinical Pathological Conference: R. E. Thomason General Hospital, El Paso F. P. Bornstein, M.D., Editor Presentation of case by William Wade, M.D.	Page 32

TMA President to Speak at District One Meeting in Pecos

The annual meeting of District One of the Texas Medical Association will be held February 3, 1961, in Pecos, Texas, at the Pecos Country Club.

Principal speaker will be Dr. May Owen, Fort Worth, president of the Texas Medical Association, who will talk at a luncheon meeting. She will be introduced by Dr. Charles E. Oswalt, Fort Stockton, counselor District One. The American Academy of General Practice will give credit for the meeting. Reservations may be made by writing Mrs. Harold Lindley, 410 S. Hickory in Pecos.

The complete program for the meeting is as follows:

- 8:30- 9:15 Registration at Pecos Country Club.
- 9:15- 9:45 Dr. David Cameron, El Paso, "Whiplash Injuries."
- 9:45-10:15 Dr. Edward Egbert, El Paso, "Respiratory Treatment of Allergy".
- 10:15-10:30 Coffee Break.
- 10:30-11:30 Dr. William Wade and Dr. Nathan Kleban, El Paso, "Panel Discussion on Diagnosis and Treatment

of Hypertension of Renal Arterial Basis".

- 11:30-12:00 Dr. John Wilkinson, El Paso, "Steroid Treatment in Skin Diseases".
- 12:00- 2:00 Luncheon at Pecos Country Club. Dr. May Owen, speaker. Business meeting — Dr. Russell Holt, president, District One.
- 2:00- 2:30 Dr. Jack Postlewaite, El Paso, "Immunity to Virus Infections".
- 2:30- 3:00 Dr. Don Rathbun, El Paso, "Intensive Treatment of Epilepsy".
- 3:00- 3:15 Coffee Break.
- 3:15- 3:45 Dr. Maynard Hart, El Paso, "Practical Uses of Radioactive Isotopes in Certain Diagnostic Procedures".
- 3:45- 4:15 Dr. Charles Campbell, Kermit, "Congenital Spherocytic Anemia and Related Anemias".
- 6:00 P.M. Cocktails followed by dinner, Pecos Country Club. Ladies invited.

Officers are Dr. Russell Holt, El Paso, president; Dr. Harold Lindley, Pecos, vice-president; Dr. Gordon L. Black, El Paso, secretary-treasurer; and Mrs. Louis W. Breck, El Paso, council woman for the District One Auxiliary.

Urised combats bacteria while providing soothing relief in cystitis, urethritis, pyelitis, pyelonephritis, and prostatitis. Urised avoids toxic reactions or drug resistance.

as a first choice **URISED[®]**
is effective in 80 to 90%
of urinary infections^{1,2,3,4} (no side effects reported)

Each Urised tablet contains: Atropine Sulfate 1/2000 gr., Hyoscyamine 1/2000 gr., Methenamine, Methylene Blue, Benzoic Acid, Salol and Gelsemium. *Supplied:* Bottles of 100.

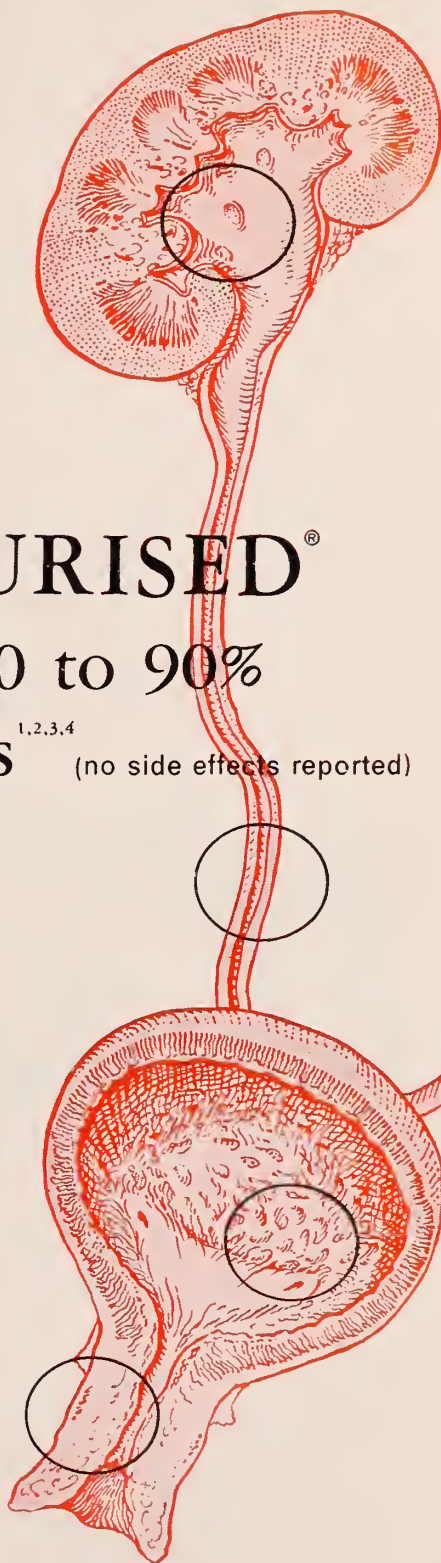
(1) Marshall, W.: Clin. Med. 7:499-502, 1960; (2) Haas, J., and Kay, L. L.: Management of Urinary Tract Infections (to be published); (3) Renner, J., et al.: Urinary Tract Infections: Treatment with Antiseptic-Antispasmodic Agent (to be published). (4) Strauss, B.: Clin. Med. 4: 309-310, 1957



Rx URISED[®]

CHICAGO PHARMACAL COMPANY

5547 N. Ravenswood Ave., Chicago 40, Ill.



How Does DEVEREUX Serve the Retarded Child?

DEVEREUX SCHOOLS have provided, for nearly fifty years, educational and treatment facilities for children and young adults with impaired intellectual or neurological functioning. A comprehensive pre-enrollment evaluation of each child determines his placement in one of the homogeneous, separate, and self-contained school or community units. Experienced physicians, psychiatrists, psychologists, and educational and vocational specialists attend the child, assess his capabilities, and institute a program to develop them to the fullest extent. Each child benefits from individual instruction and proven training techniques.

Physicians and parents in the Southwest please write direct to
Devereux Schools of Texas, Box 336, Victoria, Texas.

JOHN M. BARCLAY, *Administrator*

GEORGE A. CONSTANT, M.D., *Psychiatric Consultant*

WILLIAM A. GOODSPEED, M.S., *Psychologist*

THE DEVEREUX FOUNDATION

A nonprofit organization

Founded 1912

Devon, Pennsylvania

Santa Barbara, California

Victoria, Texas

**SCHOOLS
COMMUNITIES
CAMPS
TRAINING
RESEARCH**

HELENA T. DEVEREUX

Administrative Consultant

EDWARD L. FRENCH, PH.D.

Director

WILLIAM B. LOEB

Treasurer

Q
U
A
L
I
T
Y



P
A
P
E
R
S

EXAMINATION TABLE ROLLS

All Sizes Available
Smooth and Crepe Paper

PROFESSIONAL TOWELS

Best Quality Cellulose
White and Green

ASK YOUR SUPPLIER FOR TIDI.

TIDI PRODUCTS are always of best quality,
uniform, and economical in use.

Distributed throughout the USA

M'd. by TIDI PRODUCTS, Pomona, California

**Iron
And
Catalysts**

**NEW
IROMIN-G**

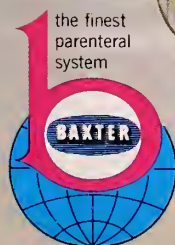
- Hematinic
- Therapeutic Vitamins
- Essential Minerals

No Fish Oils
No Disagreeable Odor

Mission PHARMACAL CO.
SAN ANTONIO, TEXAS

the new Isolyte® Family

A MODERN CONCEPT IN FLUID REPLACEMENT



DON BAXTER, INC. • GLENDALE, CALIFORNIA

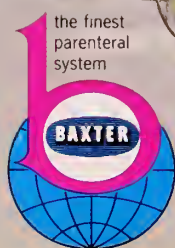
ISOLYTE® SOLUTIONS

Composition per Liter

Solution	Dextrose Gm.	Milliequivalents										Calories	mOs.
		Na ⁺	K ⁺	Ca ⁺⁺	Mg ⁺⁺	NH ₄ ⁺	Cl ⁻	Lact ⁻	Acet ⁻	Cit [≡]	HPO ₄ ⁼		
Isolyte® M Maintenance with 5% Dextrose For routine maintenance in adults and older children	50	40	35	—	—	—	40	20	—	—	15	180	400
Isolyte P Pediatric Maintenance For routine maintenance in infants and younger children	50	25	20	—	3	—	22	23	—	—	3	180	350
Isolyte E Extracellular Replacement in Water For replacement of intravascular, interstitial, transcellular losses other than gastric	—	140	10	5	3	—	103	—	47	8	—	10	320
Isolyte E Extracellular Replacement with 5% Dextrose For use as above	50	140	10	5	3	—	103	—	47	8	—	180	570
Isolyte G Gastric Replacement with 10% Dextrose For replacement of gastric loss due to suction or vomiting	100	63	17	—	—	70	150	—	—	—	—	340	800
Alsa 2 New Potassium Solutions: Kadalex® L (20 mEq. K ⁺ and Cl ⁻ /L.) 0.15% Potassium Chloride with 5% Dextrose in Water	50	—	20	—	—	—	20	—	—	—	—	170	290
Kadalex M (40 mEq. K ⁺ and Cl ⁻ /L.) 0.3% Potassium Chloride with 5% Dextrose in Water	50	—	40	—	—	—	40	—	—	—	—	170	330

the new Isolyte® Family

SIMPLIFIES COMPLETE ELECTROLYTE THERAPY



DON BAXTER, INC. • GLENDALE, CALIFORNIA

Butazolidin

brand of phenylbutazone

Geigy

arthritis and allied disorders



Proved by a decade of experience

Ten years of world-wide experience... almost 2000 published reports... have progressively entrenched Butazolidin as the leading nonhormonal antiarthritic agent.

In virtually all forms of arthritic disorder, Butazolidin affords prompt symptomatic and objective improvement without development of tolerance... without danger of hypercortisonism.

Butazolidin[®], brand of phenylbutazone, tablets of 100 mg.; Butazolidin[®] alka capsules containing Butazolidin, 100 mg.; dried aluminum hydroxide gel, 100 mg.; magnesium trisilicate, 150 mg.; homatropine methylbromide, 1.25 mg.

Geigy Pharmaceuticals
Division of Geigy Chemical Corporation
Ardsley, New York

BU 564-61 



Located in the heart of the beautiful Phoenix citrus area near picturesque Camelback Mountain, the hospital is dedicated exclusively to the treatment of psychiatric and psychosomatic disorders, including alcoholism.

The casual atmosphere of Camelback Hospital is one of relaxed Western living. Looking east, Camelback Mountain provides the background for the lovely lawn and grove area. The natural beauty of the surroundings at Camelback Hospital creates, for the patient, a restful, scenic setting.

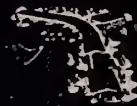
Camelback Hospital

5055 North 34th Street

Crestwood 7-7431

PHOENIX, ARIZONA

OTTO L. BENDHEIM M.D., F.A.P.A., MEDICAL DIRECTOR



IN COLDS
SINUSITIS
ALLERGIC RHINITIS

RHINALL nose drops

RELIEVES CONGESTION FAST

SAFE FOR CHILDREN AND ADULTS
NO BURNING OR IRRITATION

NO BAD TASTE OR AFTER-REACTIONS
NO RISK IN SENSITIZATION

RHINOPTO COMPANY

3905 CEDAR SPRINGS DALLAS, TEXAS

Phenylephrine Hydrochloride . . 0.15% / "Propadrine" Hydrochloride . . 0.3% / In an isotonic saline menstruum.

Samples on request

Bathsheba at her toilet
by Rembrandt.

a pleasant way to treat dry, itchy skin

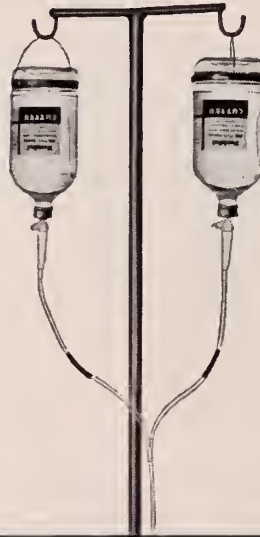
Alpha-Keri^r

water-dispersible, antipruritic oil for the bath or shower

Alpha-KERI makes dry skin feel soft and smooth immediately. It effectively deposits a uniform, partially-occlusive oil film over the entire skin area. Alpha-KERI lubricates the skin, relieves itching and restores the protective action of natural skin oils lost by the action of water, weather and detergents. It moisturizes the skin and also helps to retain moisture by retarding evaporation of water. Alpha-KERI contains: Kerohydric®, brand of dewaxed, oil-soluble, keratin-moisturizing fraction of lanolin, mineral oil, and a special nonionic emulsifier which provides the right amount of water dispersibility for optimum coverage of the skin with emollient oils. Alpha-KERI oil may be used in the bath, in the shower, for sponge bathing and for infant baths. It can also be used for skin cleansing where soap is contraindicated. Alpha-KERI oil is tinted an attractive green color and pleasantly scented. Bottles of 8 fl. oz. Write for samples and literature.

Westwood Pharmaceuticals, Buffalo 13, New York

**closed
system
minimizes
risk of
infection**



When Peridial is used the peritoneum becomes a dialyzing membrane through which filterable poisons or wastes are drawn into the Peridial solution and removed. The danger of contamination and risk of infection is greatly reduced by the specially designed closed system of infusion and drainage. Peridial flows through a special catheter into the peritoneal cavity. At the end of an hour, the Peridial solution is drained by gravity back into the original bottles without any break in sterile technique. This drawing off into the same bottles with the fluid line marked also permits accurate determination of the amount of fluid removed. As soon as the peritoneal cavity is empty, fresh Peridial solution is introduced with a new administration set.

This effective, practical, readily available medical procedure has been successfully used in treatment of acute renal failure, barbiturate poisoning, intractable edema, hepatic coma, hypercalcemia and chronic uremia, and has been reported useful in acute methyl alcohol poisoning.*

Available in 1 liter flasks with administration sets and catheter. Peridial with 1½% dextrose Peridial with 7% dextrose

**FOR
PERITONEAL
DIALYSIS**

Peridial®

**Stinebaugh, B. J.: A.M.A. Arch.
Int. Med. 105:613, 1960.*

FOR PERIDIAL BROCHURE WRITE TO DEPT. 1-7A CUTTER LABORATORIES • BERKELEY, CALIFORNIA



SOUTHWESTERN MEDICINE

VOL. XLII, NO. 1



JANUARY, 1961

MEETINGS

cology at Cornell Medical School; Dr. J. P. Greenhill, professor of gynecology at Cook County Graduate School of Medicine in Chicago; Dr. Earl M. Marsh, assistant clinical professor in gynecology and obstetrics at the University of California Medical School at San Francisco; Dr. John

Dr. John F. Wanless New President of Southwest OB-GYN Society

Dr. John F. Wanless of San Diego, California, was elected president of the Southwest Obstetrical and Gynecological Society at its tenth annual meeting in Las Vegas, Nevada, November 6-8, 1960. Retiring president was Dr. Charles Newcomb of Tucson.

Other new officers are Dr. Zeph B. Campbell, Phoenix, president-elect; Dr. Raymond J. Jennett, Phoenix, vice-president; Dr. Charles T. Franklin, La Mesa, Calif., secretary; and Dr. Francis L. Rook, San Diego, treasurer.

The 1961 meeting will be held at the Konakai Club in San Diego, October 15-17.

Guest speakers at the meeting were Dr. R. Gordon Douglas, professor of obstetrics and gynecology at Cornell Medical School; Dr. J. P. Greenhill, professor of gynecology at Cook County Graduate School of Medicine in Chicago; Dr. Earl M. Marsh, assistant clinical professor in gynecology and obstetrics at the University of California Medical School at San Francisco; Dr. John



Dr. Wanless

L. Parks, professor of obstetrics and gynecology at The George Washington University School of Medicine; and Dr. Ralph A. Reis, professor of obstetrics and gynecology at Northwestern University Medical School.

Born in Wisconsin

Born in Richland Center, Wisconsin, Dr. Wanless received his B.S. from the University of Wisconsin.

consin and his M.D. from the University of Wisconsin Medical School. He interned in Christ Hospital in Cincinnati and took a residency in the Cincinnati General Hospital in Obstetrics and Gynecology. During the war he served with the medical corps of the U. S. Navy and emerged with the rank of lieutenant commander.

He began the practice of medicine at the Rees-Stealy Medical Clinic in San Diego in 1946 and he became a partner in the clinic in 1951. He is certified by the American Board of Obstetrics and Gynecology.

He is a member of the board of directors of the California Physicians Service, past president of the board of directors of the San Diego Blood Bank, and a member of the American Congress of Obstetrics and Gynecology and the San Diego Gynecological Society. He was chairman of the department of obstetrics and gynecology at Sharp Memorial Hospital in San Diego in 1959 and is at present a member of the executive medical board of both the Mercy Hospital in San Diego and the Sharp Memorial Hospital.

SOUTHWEST OB AND GYN OFFICERS—New officers of the Southwest Obstetrical and Gynecological Society, elected at the 10th annual meeting in Las Vegas, Nevada, November 6-8, are, left to right, front row, Dr. John F. Wanless, San Diego, president; Dr. Francis L. Rook, San Diego, treasurer; and Dr. Raymond J. Jennett, Phoenix, vice-president. Rear row, left, is Dr. Zeph B. Campbell, Phoenix, president-elect, and Dr. Charles T. Franklin, La Mesa, California, secretary.



American Society of Clinical Radiology

The American Society of Clinical Radiology is accepting Charter Membership applications from CLINICIANS (Internists, Cardiologists, Gastro-Enterologists, Chest Physicians, Orthopedists, Rheumatologists, Pediatricians, Otolaryngologists

and General Practitioners) who do their own Diagnostic Radiology.

For further information write: Louis Shattuck Baer, M.D., F.A.C.P., 411 Primrose Road, Burlingame, California.

Dr. Louis W. Breck Elected President

Of El Paso County Medical Society



Dr. Breck

Dr. Louis W. Breck, a past president of the Southwestern Medical Association, was elected president of the El Paso County Medical Society at its annual meeting Dec. 13, 1960. Other new officers are Dr. Jesson L. Stowe, president-elect; Dr. William R. Gaddis, vice-president; Dr. E. S. Crossett, secretary; Dr. Carlos A. Fernandez, secretary-elect; and Dr. Antonio Dow, treasurer. Dr. Delphin von Briesen was the retiring president.

Born in El Paso, Dr. Breck attended the College of Mines in El Paso and the University of Chicago before entering the Northwestern University Medical School. He received his M.D. in 1933.

He held a rotating internship at Mary's Help Hospital in San Francisco and was assistant resident surgeon at San Quentin Prison, Calif., for the next two years. He then took a fellowship in orthopedic surgery at the Mayo Clinic.

He began the practice of medicine in El Paso in 1937 and has done orthopedic surgery there continuously since that date except for three and one-half years during World War II. He was chief of the orthopedic section in the Regional Hospital at Camp Swift, Tex., for approximately three years and left the service with the rank of lieutenant colonel. He is one of the founding members of the El Paso Orthopedic Surgery Group.

Other Distinctions

Dr. Breck is certified by the American Board of Orthopedic Surgery, a member in the American Academy of Orthopedic Surgeons, a Fellow in the American College of Surgeons, a member of the International College of Surgeons and the International Society of Orthopedics and Traumatology. He is past president of the Texas Orthopedic Association, the New Mexico Orthopedic Association, the Association of Bone and Joint Surgeons and District One of the Texas Medical Association.

He is a former chief of staff of the Thomason General Hospital, Providence Memorial Hospital, Hotel Dieu, all in El Paso, and at present is chairman of the Orthopedic Residency Training program of Hotel Dieu. He is orthopedic consultant to William Beaumont General Hospital, the Veterans Administration and the U. S. Employees' Compensation Commission. He is an approved orthopedic surgeon for the Texas Crippled Children's Division. He is consulting orthopedic surgeon at the Lea County General Hospital at Hobbs, the Memorial Hospital in Alamogordo and the Memorial Hospital in Las Cruces.

He is a member of the Masonic Order, the Scottish Rite, the Shrine, Sigma Alpha Epsilon Fraternity, Phi Beta Pi Medical Fraternity, the Manhattan Presbyterian Church, and the Downtown Kiwanis Club.

He and his wife, the former Julia S. North, have two sons and two daughters and reside at 2726 Richmond Avenue.

Dr. Louis E. Jones Heads Western Railway Surgeons

Dr. Louis E. Jones of Roseville, Calif., was elected president of the Western Association of Railway Surgeons at its 57th annual meeting in Houston, Texas, October 27-29, 1960.

The retiring president was Dr. Joe R. Gandy of Houston.

Other new officers are Dr. Hugh S. Collett, Elko, Nev., first vice-president; Dr. J. F. Prinzing, Denver, second vice-president; Dr. Graham Owens, Kansas City, secretary; Dr. Harry O. Hund, San Rafael, Calif., treasurer; and Dr. Gandy, chairman of the executive committee.

A native of California, Dr. Jones was graduated from Stanford University in 1924 and received his M.D. from St. Louis University Medical School. He interned at St. Mary's Hospital in St. Louis, Mo., and in the Sacramento County Hospital in California.

Dr. Jones entered general practice in Roseville, Calif., in 1929 and has been thus engaged continuously from that date. He became associated with the Southern Pacific Company that year as district surgeon.

In 1949 he was appointed to the California State Board of Medical Examiners and has continued in that capacity to the present. He is now secretary of the board, a position he has held since 1953. He is also president-elect of the Federation of State Board of Medical Examiners.

On Staff of Mercy and Sutter Hospitals

Dr. Jones is on the staff of the Mercy and Sutter Hospitals in Sacramento and the staff of the Roseville District Hospital, where he has been chief of staff since its establishment in 1952.

Dr. and Mrs. Jones have a son Louis, Jr., who took his master's degree in biological science in Stanford University and who is now on the teaching staff in the science department of a Sacramento high school; and a daughter, Martha, who



Dr. Jones

is at Stanford University studying for her master's degree in French.

Subjects discussed at the Houston meeting were Current Occupational Hazards in the Transportation Industry; Drug Costs and Health Progress; An Appraisal of Pre-Employment Back X-Rays; Relationship Between Railway Surgeons and the Railroad Retirement Board; Idiopathic Hypoparathyroidism: Case Report with Autopsy Findings; The Prevention and Treatment of Certain Disabling Skin Diseases; The Internist as a Surgeon's Consultant; Management Teamwork; The Comprehensive Surgical Management of Mitral Valvular Disease; Common Pulmonary Mycoses; Urological Injuries and Their Management; Chronic Arterial Insufficiency in the Lower Extremities; Stigmata of Diabetes—Clues in Early Diagnosis; Returning the Patient with Myocardial Infarction to Railroad Employment; and Rheumatoid Arthritis, Osteoarthritis, and Gout.

Members of the committee on local arrangements for the Houston meeting were Dr. and Mrs. F. R. Denman, Dr. and Mrs. C. M. Crigler, Dr. and Mrs. S. A. Levy, and Dr. and Mrs. F. K. Dornak.

Symposium on Aged, Speakers Featured at TMA Symposium

Symposium Participants

An impressive slate of guest speakers, plus an informative symposium on medical care programs for the aged and indigent, will highlight the 1961 Conference for County Medical Society Officials. The one-day program, given annually by the Texas Medical Association, will be held on Saturday, Jan. 28, at the TMA headquarters in Austin. The meeting is expected to attract 400 to 500 physicians and guests.

The guest speakers will include Dr. F. J. L. Blasingame of Chicago, Executive Vice-President of the American Medical Association; Frank S. Groner of Memphis, President, American Hospital Association; Honorable Joe M. Kilgore of Washington, United States Congressman representing the 15th District of Texas; Ed Gossett of Dallas, General Attorney for Texas of the Southwestern Bell Telephone Company; and W. P. Strube, Jr., of Houston, President of the Mid-American Life Insurance Company.

The special afternoon symposium will cover all aspects of medical care programs for the aged and indigent, including an outline of the present old age assistance program in Texas, provisions of the new federal-state medical care program for the aged, and consideration of current legislative proposals to be set before the Texas Legislature and Congress in 1961.

Participating in the symposium will be John H. Winters of Austin, Commissioner, State Department of Public Welfare; State Senator Crawford C. Martin of Hillsboro; Dr. M. O. Rouse of Dallas, Vice-Speaker of the American Medical Association's House of Delegates and a Past-President of TMA; and Dr. E. K. Blewett of Austin, Chairman of TMA's Committee on Hospital Care of the Rural Medically Indigent. The symposium will be moderated by Dr. Russell L. Deter of El Paso, Vice-President of TMA.

For the first time this year, a session dealing directly with problems of county society officials is scheduled. Subjects to be covered include topics which draw good attendance at society meetings, sources of programs, how to increase meeting attendance, committees which every society should establish, and activities which should be stressed during the coming year.

Provisional members of the Association will also have an opportunity to attend an Orientation Program on the same date. The program will be given in conjunction with the Conference, and Orientees will be able to hear all of the five guest speakers.

Other activities scheduled during the January 28th week-end will be the meeting of most American committees, councils, and boards, as well as the Executive Board meeting on Sunday morning.

Luncheon will be served in the headquarters building at noon on Saturday, and the Texas Employers Insurance Association will be host for a Hospitality Hour at the Driskill Hotel on Saturday evening.

Infantile Eczema in General Practice*

FREDERIC SPEER, M.D., *Kansas City, Kansas*

Few physicians would nominate infantile eczema as their favorite disease. It is notoriously stubborn, capricious, and unpredictable. But there is much about eczema that is benign, and the doctor who makes a patient study of each case often finds it surprisingly responsive to treatment.

As is true of so many diseases, effective treatment depends chiefly on a clear understanding of causes. Although eczema is essentially an allergic state, treatment must extend to a consideration of such factors as contact dermatitis, chapping, infection, and seborrhea. This paper will begin with a consideration of these basic factors.

ETIOLOGY

Allergy

Foods. Foods are the dominant allergens in eczema. Although any food be at fault, successful detection and elimination depend on a knowledge of their relative importance. In the following list, foods commonly fed to infants are listed in order of incidence.⁵

Very common: Milk, egg, orange.

Common: Corn, wheat, rice, oats, barley, tomato, apple, pear.

Fairly common: Bean, pea, beef, peach, plum, apricot.

Uncommon: Pork, banana, potato, carrot.

Unusual: Chicken, lamb, cauliflower, broccoli, turnip, sweet potato, beet, squash, cranberry, blueberry, asparagus, vitamin drops.

Inhalants. Inhalant allergens are of importance in later childhood, but are not common in the first

year or two of life. In stubborn cases, however, molds, pollens, and house dust are to be considered. Occasionally infants with extreme egg sensitivity will flare from the odor of egg. On rare occasions this occurs with other foods.

Pathology. Histologic study of eczema makes it clear that there is a profound disturbance of both the epidermis and corium.³ In Figure 1 the normal epidermis and upper corium are shown diagrammatically. In Figure 2 the disorganization produced in the allergic reaction is shown. Injury to the epidermis leads to the formation of vesicles. Injury to the small vessels of the corium leads to increased vascular permeability and outflow of edema fluid of high protein content. As fluid pushes up into the epidermis, vesiculation becomes severe, and vesicles rising to the surface rupture through the horny layer and destroy its continuity. The result is a swollen, vesicular, erythematous, itching, weeping, crusted skin. For some reason the sites of predilection of this process are the face, forearms, and legs, but in severe cases almost the entire integument is involved.

Seborrhea

The term seborrhea implies increased activity of the sebaceous glands, but enlargement of these structures has not been consistently reported. In the absence of a settled concept of pathogenesis, the writer is inclined to think that seborrhea probably represents a state in which aging epidermal cells, instead of elaborating keratin, turn to the formation of lipids and the production of a soft, greasy epidermal surface. The horny layer becomes the fatty layer, which breaks into greasy scales and falls away, leaving the sensitive lower epidermis exposed.

Glaser¹ has summarized the points which aid

*Presented before the annual meeting of the Southwestern Medical Association, November 7, 1959.

From the pediatric allergy clinics of the University of Kansas Medical Center and Children's Mercy Hospital, Kansas City.

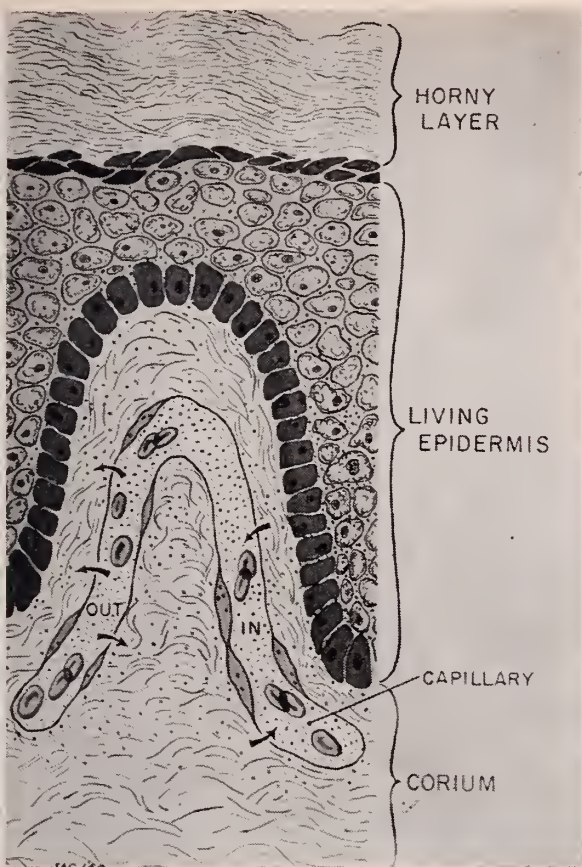


Figure 1

NORMAL SKIN, DIAGRAMATIC. Small vessels of the corium are intact. Tissue fluid flows from arteriolar end of capillary and is reabsorbed into venular end, bathing living epidermis. Horny layer of epidermis is intact. In eczema, sensitized epidermal cells are injured on contact with allergen carried in tissue fluid.

in the recognition of seborrhea. The following seven are abstracted from his summary.

1. Seborrhea of the scalp (cradle cap) is usually present.

2. Waxy plaques may be seen on involved areas of the body.

3. Lesions tend to be salmon or yellowish brown rather than red.

4. Antecubital and popliteal lesions tend to be intense at the periphery and relatively clear at the creases. Margins of lesions are usually sharp.

5. When stretched, the skin appears yellowish and "brittle."

JANUARY, 1961

6. In contrast to eczema, there is very little itching.

7. Vesiculation is absent.

Chapping (Dehydration)

Even in health the horny layer of the skin may be intolerant of low atmospheric humidity. The infant's face is especially vulnerable to chapping since it is constantly exposed to wetting (saliva, milk, drink, food, washing) and drying (towels, bedding, evaporation, low humidity). There can be little question that it is because of chapping that eczema characteristically flares in cold weather. It may also be said with assurance that it is the high humidity of summer, rather

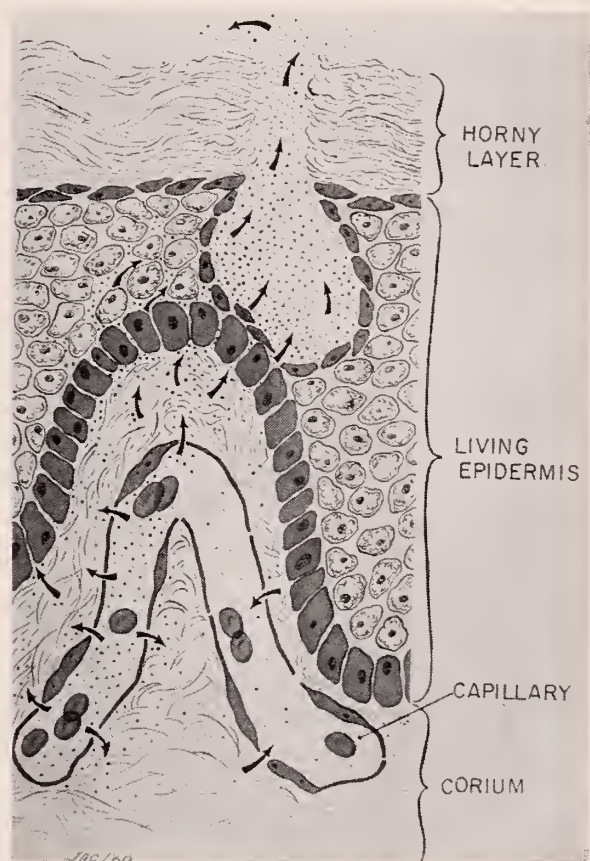


Figure 2

SKIN IN ECZEMA, DIAGRAMATIC. Injury to epidermal cells from allergic reaction leads to vesicle formation. Injury to small vessel leads to outflow of tissue fluid of high protein content. Edema results and vesiculation is aggravated. Fluid oozes through vesicles with crust formation. Moist, injured skin is subject to external injury and infection.

than ultraviolet light, that accounts for remission in warm weather.

Contact Dermatitis

Although contact dermatitis is a sensitization phenomenon, it is apparently of an order distinct from the type found in such diseases as eczema, hay fever, and asthma. It is therefore discussed separately.

The skin of infants does not come into contact with the great variety of substances which may disturb the skin of adults, but there are several contactants which are of great importance. Some of these are true sensitizers, while others are physical or chemical irritants. Among the substances most likely to injure the eczematous skin is soap. It may not only act as a sensitizer, but does great damage to the inflamed skin by its macerating and defatting action. Wool may be a sensitizer and is always abrasive. Wool sensitive patients may have trouble from ointments containing lanolin (wool fat). Oils, lotions, creams, shampoos, soaps, and powders contain perfumes which may irritate the skin. Most oils and creams contain hydrocarbons (mineral oil or petroleum jelly) which are solvents of skin fats. Other contactants are: Nylon; vinyl plastic (bibs, diaper covers, high chair upholstering, play pen covers); starch (in clothing and heat powders); fabric dyes; and rubber diaper covers. Drugs which may cause trouble are: steroids; camphor and menthol (chest rubs); mercury, antipruritics, antihistaminics, antibiotics, and sulfonamides.

A well known type of contact dermatitis due to a primary irritant is diaper rash from ammoniacal diapers. In this connection it is well to keep in mind the possibility that drugs used to inhibit ammonia formation may themselves be skin irritants.

Infection

The well known ability of the skin to protect itself from infection is seriously impaired by eczema. Especially to be feared are the viruses of cowpox and herpes simplex. Among bacteria, the common pathogens are staphylococcus and streptococcus, and a sudden flare should always put these two under suspicion.

Candida (*Monilia*) *albicans* is the common fungal invader. *Moniliasis* should be suspected

when a beefy-red area of swelling spreads from the anus to the surrounding diaper area.² This type of infection may occur in other areas and is easily overlooked. The organism can usually be identified by the use of Pagano-Levin medium, Squibb. The child's mother commonly gives a history of severe vaginitis and the father may have crural fungus infection.

PHYSICAL FINDINGS

A head-to-toe inspection of the skin is necessary to proper identification of the various factors which enter into infantile eczema. A search is made not only for the five factors which commonly enter into eczema (allergy, contact dermatitis, seborrhea, chapping, infection) but for other skin disease. Any dermatosis may complicate eczema and others may be confused with it.

Diseases that may resemble eczema are: ringworm, scabies, impetigo, ichthyosis, drug rash, miliaria, papular urticaria, moniliasis, and epidermolysis bullosa.

Body areas which should receive special attention are these:

1. The scalp—for seborrhea, vesiculation, infection.
2. Behind external ears — for intertriginous seborrhea or *Candida* infection.
3. The cheeks—for vesiculation.
4. The parotid area and external ear—for seborrheic scaling.
5. The nose—for discharge, impetigo of nares, and eosinophils.
6. The diaper area—for (a) *Candida* infection, (b) ammonia dermatitis, (c) contact dermatitis due to plastic or latex (at margins of diaper area), and (d) erythema from incompletely rinsed diapers. When significant amounts of soap or detergent are left in the diaper, erythema may result. In these cases the skin folds are clear.

TREATMENT

The rule that proper treatment depends on accurate diagnosis applies with particular force in eczema. If the various etiologic factors can be sorted out and dealt with, evidence of healing may be apparent within a few days. But where the skin is severely damaged and the status of the various etiologic factors is obscure, progress may be painfully slow. At times the physician

must uncover one factor at a time and control the disease as best he can. He may well remember the advice of Carlyle, "Do the Duty which liest nearest thee, which thou knowest to be a duty! Thy second Duty will already have become clearer."

Allergy Management

Since allergic sensitization is the central element in eczema, it represents the central problem in treatment. The detection of food allergens depends chiefly on history and elimination tests. Although skin testing should be used where the physician is trained in its use, it is not an absolute essential. All foods with any suspicious history are eliminated from the diet. In the absence of such evidence, those least likely to be allergenic are used. It is important that foods be rotated as much as possible so that the mother may be able to correlate exacerbations with individual foods.

In substituting for milk, either a soy formula or meat (beef) base formula may be used. The soy milk with which the writer has had the most experience is Mullsoy. Except for patients sensitive to beans and peas, it is well tolerated. If beef base formula (Gerber) is not tolerated, the mother makes her own formula, using strained pork, chicken, and lamb in rotation.

Rowe Meat-Base Formula¹ (Modified)

Strained lamb, pork, or chicken.....	2 cans
Cottonseed oil	3 tblsp.
Table sugar.....	2 tblsp.
Tapioca starch.....	2 tblsp.
Calcium carbonate.....	1 tsp.
Salt	1/2 tsp.
Water	1 quart

All measurements are level. Heat water in top of double boiler until water in outer boiler begins to boil. Add salt, sugar, and calcium carbonate. Mix starch to paste in 1 cup of cold water and stir into mixture. Cook ten minutes, stirring constantly. Add meat and oil. Cook ten more minutes.

If tapioca starch or flour is not available, potato or arrowroot flour may be used. Ordinary tapioca also may be used, although it makes a rather thick mixture. Mothers may make their own meat using a blender. Any vegetable oil may

be used, although olive oil seems least likely to cause allergic reactions.

The Rotated Diet

In severe eczema, it is wise to begin with the least allergenic foods, rotated so as to identify reactions to them. Any food which causes significant trouble (eczema, vomiting, colic, diarrhea, etc.) is dropped.

<i>Diet 1 (2 days)</i>	<i>Diet 2 (2 days)</i>	<i>Diet 3 (2 days)</i>
Lamb formula	Pork formula	Chicken formula
Carrot	Sweet Potato	White potato
Beet	Squash	Cauliflower
Asparagus	Peach	Pineapple juice

Weak tea, ginger ale, or water sweetener with sugar may be given at any time. After a trial removal of a week or so, synthetic vitamins may be given daily. If the child is on one of the meat formulas, he may take tapioca daily.

Management of Non-Allergic Factors

1. **Seborrhea.** Where the scalp is crusted, debris is removed by shampooing vigorously. A recently introduced product, Sopronol, is very effective for this purpose. Pragmater or other sulfursalicylic acid ointment is applied nightly, both to the scalp and to body areas that appear to be seborrheic. Although such ointments are not usually irritating it is well to tell the mother of that possibility.

2. **Chapping.** The ideal way to manage chapping would be to keep the child in a humid atmosphere, but this is hardly practical. Wet packs are also theoretically sound treatment, but anyone who has tried to keep a squirming, itching infant in wet packs knows of the difficulties. The child may be kept in either Burrow's solution (one Domeburo tablet to the quart) or saline (one level teaspoonful of salt to 24 ounces). In any case, the mother is urged to avoid soap and to treat the skin with gentle respect. Dry, rough areas may be oiled with vegetable oil or vegetable shortening such as Spry and Crisco.

3. **Contact Dermatitis.** It is best to assume that the patient is sensitive to all known contactants and primary irritants. The infant is dressed in white or pastel cotton from which soap or detergent have been thoroughly rinsed. He must not be dressed in wool, nor should he come into contact with woolen blankets, rugs, adult clothing, or furniture.

4. **Infection.** Perhaps the most important point in the management of infection is prevention. Neither the child, nor his siblings, nor anybody around him, is to be vaccinated for smallpox! Individuals with herpes simplex should stay entirely away from him. The presence of upper respiratory disease in the patient or in the family should be a signal for a careful search for signs of infection in eczematous areas.

Treatment of streptococcal and other bacterial infection is carried out along conventional lines. Unless there is previous history of reaction, antibiotics are indicated. Candida infection is treated with nystatin ointment or dusting powder.

5. **Steroids.** It might be said of adrenal steroids that they work too well! The first time they are used, whether orally or locally, the results are invariably good. Later use is often of no benefit, and repeated local use commonly inflames the

skin. These agents most certainly have their place, however, and whenever specific treatment bogs down, the remission they often bring is most welcome.

Summary

Infantile eczema may be defined as an allergic dermatosis commonly complicated by seborrhea, contact dermatitis, chapping, and infection.

Success in treatment depends on recognition not only of the allergic components of the disease but complicating non-allergic factors as well.

1916 North Fortieth Street

References

1. Glaser, J.: Allergy in Childhood, Springfield, Ill., Thomas, 1956.
2. Hill, L. W.: Eczema, St. Louis, Mosby, 1956.
3. Pinkus, H.: Histopathology of allergic dermatosis, Ann. Allergy, 12:671, 1954.
4. Speer, F.: Management of Childhood Asthma, Springfield, Ill., Thomas, 1958.
5. Speer, F.: Food allergy in childhood. Archives Pediatrics, 75:363, 1958.

Coming Meetings

International Medical Assembly of Southwest Texas, 25th Annual Meeting, Granada Hotel, San Antonio, Jan. 23-25, 1961.

Arizona Heart Association, Fourth Annual Cardiac Symposium, Biltmore Hotel, Phoenix, Jan. 27-28, 1961.

American Society of Internal Medicine, Regional Meeting, Phoenix, Feb. 25, 1961.

Texas Orthopaedic Association, Galveston, Texas, April 24, 1961.

United States-Mexico Border Public Health Association, Annual Meeting, San Diego, June 25-29, 1961.

Southwest Obstetrical & Gynecological Society, Eleventh Annual Meeting, Konakai Club, San Diego, Oct. 15-17, 1961.



**Dollars Today—
—Doctors Tomorrow**
American Medical Education Foundation
535 N. Dearborn Street, Chicago 10, Illinois



Peritoneal Dialysis

R. C. DERBYSHIRE, M.D., *Santa Fe*

Peritoneal dialysis was first found to be a feasible method for removing toxic substances from the blood of patients with renal failure in 1923 (1). Acceptance of the method in the United States has been slow because of the many complications which have been reported. The most important of these are peritonitis, overhydration, drainage difficulties, and electrolyte abnormalities. As recently as 1948 Frank, Seligman and Fine (2), reporting on a series of patients in whom they had employed a sump drain, stated, "The continuing hazard of peritonitis makes it necessary to regard the method as still in the experimental stages, and it should not be considered for routine clinical use."

After perfection of the artificial kidney, interest in peritoneal dialysis waned further and has only recently been revived mainly by the efforts of Maxwell and his associates (3) and Doolen and his group (4). Maxwell, impressed by the fact that treatment with an artificial kidney remains a formidable and costly procedure and that this technique should be limited to relatively few hospitals serving large population areas, devised an improved method of peritoneal dialysis which will be described. In cooperation with Don Baxter, Incorporated, he and his associates have devised a safe, efficient method and have eliminated the majority of the pitfalls inherent in other methods.

Simple Technique

The present technique of peritoneal dialysis is simple, can be initiated at the bedside, and, after the dialysis is well started, can be handled by any intelligent nurse after a few minutes of instruction. The only materials needed are the solutions and tubing, a scalpel, a trocar, a special catheter and

sutures. The solutions, tubing and catheter can be obtained from Baxter and arrive sterile and ready for use. It is possible to prepare the solution in the hospital but this can be risky as well as cumbersome and time consuming. The appropriate equipment can be stocked by the hospital and is ready for use at all times.

The composition of the dialyzing solution is: sodium 140 M. eq per liter; chloride: 101 m. eq./L; calcium: 4.0 m. eq./L; magnesium: 1.5 m. eq./L; lactate: 45 m. eq. per liter and dextrose: 15 grams per liter. The total osmolarity is 372 milliosmols per liter. It is essentially a potassium-free extracellular solution with enough dextrose added to increase the osmolarity to 372 milliosmols per liter, somewhat higher than the levels found in uremic patients. This prevents absorption of the fluid from the peritoneum and over hydration. Potassium is intentionally omitted for use in uremia but may be added when used for barbiturate and other types of poisoning in which the serum potassium level is normal. To each two liters of solution are added 25 mgm. of tetracycline and 10 mgm. of aqueous heparin. The use of heparin is discontinued after three exchanges if the outflow fluid is not bloody.

Catheter Insertion

The technique of insertion of the catheter is simple and, although a Duke trocar is recommended, the ordinary small paracentesis trocar is adequate. The catheter is constructed of semirigid nylon 11 inches long, is slightly curved at the tip and has a rounded, unperforated end. The distal three inches are perforated with multiple small holes with smooth edges placed close together. This type of catheter along with the use of heparin does much to eliminate difficulties with outflow caused by plugging by fibrin or with omentum. Another type of catheter, devised by Doolen (4) and his group, seems promising and employs the same principle, the only difference being that the holes are recessed in small groves which should further help in preventing blockage.

Peritoneal Dialysis

I should like to present briefly the technique of peritoneal dialysis as employed in a recent case.

If you are interested in further details I refer you to the excellent article of Maxwell (3) upon which much of this presentation is based. The trocar is inserted in the lower midline of the abdomen under local anesthesia after meticulous preparation of the skin. The incision must be small and every effort must be made to obtain a snug fit around the catheter to prevent leakage. After the peritoneum has been entered the stylet is withdrawn and the trocar advanced its full length. The catheter is then inserted and trocar withdrawn. The catheter is aimed dorsally and towards the right or left lumbar gutter. It can be manipulated by changing the direction of the trocar or by direct rotation from the outside. The catheter is connected to two liters of dialyzing fluid by means of a y-tube to which the heparin and tetracycline have been previously added. The fluid is then allowed to flow into the abdominal cavity by gravity which usually requires from five to ten minutes. When the bottles are empty but the tubing still full the tubing is clamped and the bottles placed on the floor beside the bed. The fluid is allowed to remain in the abdomen for one hour at the end of which the clamps are removed from the tubing and the fluid removed by siphonage. While drainage is taking place two more liters of solution are prepared and at the completion of drainage are connected to the catheter with fresh tubing. Usually between 30 and 50 liters of fluid are used over a period of from 24 to 36 hours depending upon the indications. A careful record of intake and output is kept.

Most Frequent Complications

The most frequently reported complication of peritoneal dialysis, peritonitis, has been largely eliminated by the method described. The essential points are assured sterility of solutions and tubing, the employment of an entirely closed system, the use of new sterile tubing with every addition of fluid, and the prophylactic use of tetracycline. Maxwell (3), reporting 76 cases in which peritoneal dialysis was employed, encountered no instance of peritonitis. Forty three (43) cultures of fluid at the end of dialysis were sterile and in sixteen cases which came to autopsy there was no evidence of peritonitis.

In the case under discussion, for the first few hours considerable difficulty was encountered with

outflow, probably due to the fact that with the first introduction of the solution air was allowed to enter the system. This was most troublesome and it was finally necessary to modify the procedure to the extent that for several hours the filling and drainage of the abdominal cavity was made a continuous procedure. But the following day the system began to function much better and complete drainage could be effected in thirty minutes. We never attained the ideal of fifteen to twenty minutes for drainage as described by Maxwell (3).

Technique Refinements

If peritoneal dialysis is adopted for routine use, there are certain refinements in technique which I believe should be instituted. The patient should be weighed daily as a precaution against overhydration. Frequent cultures should be taken from the recovered dialyzing fluid. Chemical analyses of the dialysate would also be of value. These measures were not used in this case for various reasons.

There are few absolute contraindications to peritoneal dialysis. The most important is pre-existing peritonitis. A relative contraindication is recent extensive abdominal surgery although this is not regarded as seriously as in the past. Remote abdominal surgery is in itself no contraindication although the site of the scar might influence one in the placing of the catheter and extensive adhesions might preclude the use of the procedure.

Indications for Use

The indications for the use of peritoneal dialysis are essentially the same as those for the employment of the artificial kidney. These are not uniform but in general it can be said that clinical signs and symptoms of uremia should be regarded as more definite indications for dialysis than abnormal biochemical findings (5). Parsons and McCracken found a reliable correlation between daily increments in BUN and the necessity for dialysis. Using early mental symptoms as indications they noted that conservative therapy was adequate when the BUN rose by only 10 mgm. per 100 ml. daily but in patients with daily increments of 15 to 30 mgm. usually one or more dialyses were required. Of course another indica-

tion is threatened potassium poisoning not controllable by cation exchange resins.

Peritoneal dialysis has other applications than in renal failure. It is often effective in removing excess fluid in chronic nephritis with edema. In such cases the dialyzing fluid is modified by the addition of glucose to give a concentration of 7 per cent. It has also been found to be effective in the treatment of certain cases of poisoning such as those due to barbiturates, boric acid and salicylates.

Recently Segar (6) reported on the use of peritoneal dialysis in boric acid poisoning in three small infants. Exchange transfusions had been of no benefit in removing the poison but peritoneal dialysis removed large amounts as determined by measurements of the recovered fluid. The size of the patient is no contraindication to dialysis and furthermore the artificial kidney has not yet been adapted to use in such small patients.

Mortality Rates

The mortality rates of artificial kidney centers both in the United States and abroad are consistently at about fifty per cent. Although the number of cases in which peritoneal dialysis has been used is smaller, the mortality compares favorably with that following use of the artificial kidney in renal failure. The highest mortality has always occurred in post traumatic cases, the lowest in post partum patients with nephrotoxic renal failure.

It might be interesting to compare peritoneal dialysis with dialysis with the artificial kidney. Both methods have certain advantages and disadvantages. The main disadvantages of the artificial kidney are its expense, not only initially but of upkeep and operation. Its use requires a team of experts including two physicians who must be in constant attendance for six hours or more. It requires at least five pints of blood for priming and more in reserve in case of emergency. On the other hand the artificial kidney is more efficient in that the average required time of dialysis is

six hours as compared with from 12 to 36 hours in peritoneal dialysis, although the latter eventually accomplishes the purposes as well as the artificial kidney.

It is obvious that in certain cases with absolute contraindications peritoneal dialysis cannot be employed and in such the use of the artificial kidney is mandatory. The main advantages of peritoneal dialysis are its relative simplicity and ease of operation and the fact that it can be started within thirty minutes of the time that it is decided that dialysis is indicated. It requires a minimum of personnel and after it has been begun it can be operated by any intelligent, well informed nurse. Furthermore, in a small hospital, and the majority of hospitals in this country are in this class, the need for dialysis of any type arises seldom and peritoneal dialysis offers a great advantage under these circumstances.

Conclusion

In conclusion, I am not presenting peritoneal dialysis as a method to be used to the exclusion of the artificial kidney. Each has a definite place and peritoneal dialysis has been presented as an alternative method of treatment which is frequently indicated in preference to the artificial kidney. The equipment for peritoneal dialysis can be stocked in any hospital and kept in readiness at all times.

227 E. Palace Avenue, Santa Fe, New Mexico

REFERENCES

1. Ganter, G.: Quoted by Maxwell et als.
2. Frank, Howard S.; Seligman, Arnold M.; Fine, Jacob: Further Experiences with Peritoneal Irrigation for Acute Renal Failure. *Ann. Surg.* 128: 561-608, Sept. 1948.
3. Maxwell, Morton D.; Rockney, Robert E.; Kleeman, Charles R.; Twiss, Mary R., Peritoneal Dialysis. *J. A. M. A.* 170: 917-924, June 20, 1959. An evaluation of Intermittent Peritoneal Lavage. *Am. J. Med.* 26: 831-844, June 1959.
5. Franklin, Stanley S.; Merrill, John P., Acute Renal Failure II. *New England J. Med.* 262: 15, April 19, 1960.
6. Segar, William E. Peritoneal Dialysis in the Treatment of Boric Acid Poisoning. *N. Eng. J. of Med.* 262: 789-800, April 21, 1960.

The Management of Urinary Tract Infections

J. HAAS, M.D.* AND

L. L. KAY, M.D., NEW YORK

*Attending Urologist, Harlem Hospital, New York City; Chief Urologist, Veteran's Administration, New York Regional Office; Consultant Urologist, Selective Service, New York City Headquarters.

The more common non-specific infections attaching the kidney, perirenal tissues, ureters, bladder and urethra can usually be handled by the general practitioner. He is aware of the importance of general hygienic measures and of the fact that complete cure depends upon finding the cause of the disease. In addition, the value of chemotherapy with sulfas and antibiotics has been impressed upon him in recent years, and he has become familiar with the use of these drugs.

Less attention has been focused upon the fact that therapy with sulfas and broad-spectrum antibiotics may be associated with some serious side-effects. Individuals may be sensitive to these drugs, resistant strains of bacteria may develop during their use, and the drugs are expensive. This is not to imply that broad-spectrum antibiotics or sulfas should never be used in treating infections of the urinary tract. However, their use should be reserved for the more serious and complicated cases.

The drugs which should be used first in most patients with non-specific urinary infections are simple bacteriostatic agents and spasmolytic drugs. These agents are safe, have almost no toxicity, are inexpensive, and cause no systemic reactions. This study was under-taken to determine the clinical effectiveness of a single preparation which contains both bacteriostatic and anti-spasmodic drugs.* Its

usefulness in geriatric cases has been previously reported¹, with good or excellent results in 72 per cent of cases. The study was conducted on sanitarium patients, all of whom had some form of chronic cardiac, vascular or neurologic disease. The present study was conducted on a younger group of patients who, as a whole, were in better physical condition.

Methods and Materials

A total of 50 patients, 30 with acute conditions and 20 with chronic conditions, were treated. Their diseases were classified as follows:

Acute Conditions

Cystitis	12
Infections due to chronic renal insufficiency.....	7
Infections due to lithiasis	5
Infections associated with diabetes mellitus.....	3
Infections associated with hypertension	3
Total	30

Chronic Conditions

Cystitis	6
Pyelonephritis	4
Infection due to indwelling catheter and paralytic bladder	4
Infection associated with chronic prostatism.....	4
Infection due to stricture of urethra	2
Total	20

*Urised, Chicago Pharmacal Company, Chicago, Illinois. Each tablet contains hyoscyamine, methenamine, atropine sulfate, methylene blue, benzoic acid, salol and gelsemium.

These diseases have in common the fact that bacteria reach the kidney by way of the blood stream, the ureter or periureteral lymphatics, or from the intestines by way of lymphatics. Hematogenous infections are the most frequent. Since the kidney does not filter bacteria, infection of clinical importance may occur when bacteria come in overwhelming numbers or when there is lowered resistance of the urinary passages. Almost any organism may cause an infection, but it is often found that *Escherichia coli* is responsible. *Staphylococci* and *streptococci* also occur with some frequency.

Symptoms which frequently accompany acute bacterial infections include sudden onset of chill, fever or pain in the loin. The patient may also note burning, urgency, frequency. The urine may contain bacteria, albumin and varying amounts of pus. Reaction of the urine is neutral or acid when *Escherichia coli* is present, and alkaline with *Proteus vulgaris*. Red cells are frequently found in the sediment, but gross hematuria is rare. Chronic disease is more difficult to diagnose in that the clinical picture is variable, and frequently symptoms are so mild as to escape recognition until the disease has been present for some time.

Treatment

Treatment in this series of patients consisted of administering a drug which contains a bacteriostatic agent and an antispasmodic drug. Studies of sensitivity of organisms were not done routinely, since they are time-consuming and expensive and in many instances contribute no additional help. The usual dose of the drug was 2 tablets 4 times each day with a glassful of water. The initial dose in acute cases was 2 tablets, followed by a second dose one hour later and a third dose at the end of two hours. Patients were treated for from 10 days to 2 months. When indicated, patients were also instructed to eat a soft diet, get plenty of bed rest, and to drink liberal amounts of fluid.

It should be emphasized that careful evaluation of the history in an individual case and examination of a properly collected specimen of urine are absolutely essential. If there is suggestion of a coexisting pathologic condition, the patient should have a detailed urologic study immediately. Previous studies have shown that results of therapy

for infections of the urinary tract are more dependent on the presence or absence of a complicating lesion than on the medication being given.² A drug such as the one under investigation will not give relief from symptoms of obstruction such as those accompanying tumors or stones, for instance.

Results

The effects of the drug combination in 50 patients with acute or chronic infections of the urinary tract are summarized in Table 1.

Table 1

Summary of Results with Urised Therapy				
Diagnosis	Total No. of Patients	Good	Results Fair	Poor
Acute Infections:				
Cystitis	12	8	4	—
Infections due to chronic renal insufficiency	7	5	2	—
Infections due to lithiasis	5	2	2	1
Infections associated with diabetes mellitus	3	1	2	—
Infections associated with hypertension	3	1	2	—
Total	30	17 (57%)	12 (40%)	1 (3%)
Chronic Infections:				
Cystitis	6	1	4	1
Chronic pyelone- phritis	4	1	2	1
Infection due to indwelling cathe- ter & paralytic bladder	4	1	2	1
Infection associated with chronic prostatism	4		3	1
Infection due to stricture of urethra	2		1	1
Total	20	3 (15%)	12 (60%)	5 (25%)
Grand Total	50	20 (40%)	24 (48%)	6 (12%)

In this study, approximately 88 per cent of patients treated for non-specific urinary infections were benefited by Urised, as opposed to 72 per cent of geriatric patients in an earlier study. As shown in Table 1, a higher percentage of patients with acute infections benefited from the medication than those with chronic infections. Their symptoms were generally relieved in a few hours.

No side effects were apparent in this series of patients. None developed sensitization to the drug, and it was possible to maintain the same dosage schedule throughout the course of therapy.

Summary and Conclusions

Fifty patients with acute or chronic infections of the urinary tract were treated with a drug having bacteriostatic and antispasmodic properties. Of the 30 patients having acute infections, 97 per cent had fair to good results. Of the 20 patients with chronic infections, 75 per cent had fair to good results. The usual dosage was two tablets four times daily.

Except in severe infections of the urinary tract, agents such as those contained in Urised should be tried first. This drug is safe, has almost no toxicity, is inexpensive, and causes no systemic reactions. However, if an infection has proved resistant to therapy, studies of sensitivity in conjunction with complete urologic study, including urography and cystoscopy, may prove of great value.

REFERENCES

1. Strauss, B., Treatment of Urinary Tract Infections in the Elderly, *Clin. Med.* 4:307; March 1957.
2. Cook, E. N., The Management of Infections of the Urinary Tract, *Ann. Int. Med.*, 43:316, August 1955.

CPC

Clinical Pathological Conference

R. E. Thomason General Hospital, El Paso

F. P. BORNSTEIN, M.D., *Editor*

Presentation of case by DR. WILLIAM WADE

Case No. 1459, October 28, 1960

History: Dr. Nathan Kleban:

A 51-year-old Latin-American housewife entered the hospital on June 2, 1960.

The patient had given birth to nine children with seven surviving. Menstruation stopped at age 42. During the past year she lost 30 lbs., despite a good appetite. Urinary symptoms were denied.

One day before admission the patient was struck with severe abdominal pain, most intense in the upper mid-abdomen. The pain was not affected by two bowel movements. On the day of admission she vomited three or four times. A physician gave her narcotic for pain and referred her to the hospital.

Physical Examination:

The patient was restless with pain, pale, emaciated, and appeared slightly jaundiced. T. 99. P. 110. R. 22. B. P. 150/100. Abdominal tenderness was generalized but greatest in the epigastrium. The abdominal wall was rigid. No bowel sounds were heard. Lungs were clear. There was no cardiac murmur.

Hospital Course:

Yellow fluid was obtained when a gastric tube was inserted. Continuous suction was maintained. Parenteral chloramphenicol was given on the first day, tetracycline on the second, and tetracycline, penicillin, and streptomycin on the third. Mepereidine (Demoral) was injected for pain. Propanthe-

line bromide (Probanthine) was prescribed. Temperature rose to 103.6 on the second day. Acetylsalicylic acid rectal suppositories were used for fever.

Urinary output was 1400 cc. on the second day. Two liters of glucose water and one of electrolyte solution were given intravenously on the first day. On the second day no glucose water and 3.5 liters of electrolyte were administered. A retention catheter was placed in the urinary bladder. The patient vomited 500 cc. of dark green material. She was noted to be confused.

On the third hospital day the patient received no glucose/water, three liters of electrolyte solution, making a total intake of two liters of glucose/water and 7.5 liters of electrolyte solutions, which consisted of Ringer's lactate or M/6 lactate. The patient had a liquid stool in bed. Temperature rose to 106 (R), then 108 (the maximum registered on the thermometer). Five hours after cold water sponging and ice water enemas were started the temperature was 107.6 (R). Oxygen was prescribed for labored breathing. Systolic blood pressure dropped to 60. The patient said she felt better, but three hours later she was pronounced dead.

Laboratory Findings:

X-rays: 6-2-60—Abdomen, flat and upright, chest, A-p supine: "Survey films of the abdomen in the erect and recumbent posture reveal no evidence of free air under either hemi-diaphragm. Four large mixed-type of gall bladder calculi are visualized in the right upper quadrant. The kidneys are normal in size, shape and position. The psoas shadows and properitoneal fat lines are present bilaterally. The lumbar spine and pelvis reveal minimal degenerative changes. Conclusion: Abdomen negative for evidence of ruptured hollow viscus."

Sagittal view of the chest reveals the lungs to be well ventilated. There is no evidence of active pulmonary infection. The heart and mediastinal structures appear natural. The bony thorax and diaphragm appear intact. The trachea occupies its usual position. There is a stable calcification in the fifth interspace anteriorly on the right. Conclusion: Chest negative for evidence of active pulmonary infection or congestive failure.

6-4-60 — P-A portable chest: Re-examination of the chest and comparison with previous study now reveals two patchy confluencies, one at the left base and one in the mid-lung field, consistent with pulmonary infarction with accompanying pneumonitis. The remainder of the chest reveals no significant change from the previous examination. The bony thorax and diaphragm appear intact, except for some obscuration of the left costophrenic sulcus probably secondary to a small effusion or thickened pleura. Conclusion: Findings consistent with bilateral pulmonary infarction.

Blood counts: 6-2-60—Hb. 14.2 gms., Ht. 44%, WBC 22,600, Stabs. 28, Segs. 73, Lymphs. 9. 6-3-60—Hb. 15.6 gms., Ht. 51%, WBC 14,500, Juveniles 1, Stabs. 24, Segs. 58, Lymphs. 16, Monos. 1. 6-4-60—Hb. 13.3 gms., Ht. 45%, RBC 4,320,000, WBC 8,400, Stabs. 12, Segs. 62, Lymphs. 22, Monos. 4.

Urinalysis: 6-2-60—(Catheterized) Deep yellow, hazy, acid, S.G. 1.016, Albumin trace, Sugar negative, WBC 50-60, few clumps, Ep. cells few round, casts few hyaline, moderate no. bacilli, few calcium oxylate crystals.

Chemistry: 6-2-60—Amylase—711; Van den Bergh Direct—.808, Indirect—1.3; Calcium—10.1; CO₂ capacity—21 Mm/L; Chlorides (as NaCl)—110; Potassium—4.3 mEq/L; Sodium—147 mEq/L. 6-3-60—Amylase—674; Calcium—3.9 mEq/L; CO₂ capacity—15 Mm/L; Chlorides (as NaCl)—112 mEq/L; Phosphatase, Alk.—4.7; Potassium—4.7 mEq/L; Sodium—140 mEq/L; Total Protein—6.3 gm.%; Albumin—4.2; Globulin—2.2; A/G—1.9. 6-4-60—Amylase—358; CO₂ capacity—15 Mm/L; Urea Nitrogen—16.

Clinical Discussion: Dr. William Wade

I am glad to see such a small crowd here to enjoy my discomfort. One of my problems in going over this CPC during this election campaign, that epithet "tricky" has been popularized quite a bit and I am not sure just how tricky Dr. Bornstein is, so I don't know just what to do with it. I think I would like to start off by reading the protocol, if you are like I am, you probably haven't had a chance to read it previously.

Concerning the history, I would be interested to know if she could have been an alcoholic, or

had ingested much alcohol prior to this episode, or did the pain come on after a large meal?

Her hospital course was as follows: A Lavine tube was inserted and yellow fluid was obtained from the stomach. Continuous gastric suction was maintained. She was given chloromycetin on the first day, tetracycline was added on the third, and penicillin and streptomycin were added I presume on the third. Demerol was given for her pain. She was given Probanthine. Her temperature rose to 103.6 on the second day, aspirin suppositories were given, it doesn't say so, but I am sure she received nothing by mouth during this three days. Her urinary output was 1400 cc. The patient vomited 500 cc. of dark green material, I wonder if this was while the tube was in place?

Answer:

Yes.

Dr. Wade:

If so, it probably indicates that the gastric tube had become blocked. I think it is a very important detail to stress that the Lavine tube should be irrigated to insure its patency. A patient should not vomit with a Lavine tube in place.

Several things need mentioning in this history and physical, such as the confusion that may be related to the fluid and electrolyte management. I thought I might say a little bit about the fluid and electrolyte balance but actually we are given so few data that I can't make any worthwhile observation. For instance, we don't know what her urinary output was during this time, it is told on one occasion she had 1400 cc. of urinary output on the second day. However, it strikes me as a little peculiar that she got so much electrolytes and so little glucose and water, even assuming that she was losing large quantities of electrolytes. With considerable ileus there may have been considerable fluid in the intestine. It is quite proper to replace that with electrolytes.

On the second day of June a supine and upright abdomen and A-p chest were taken, no free air was noted, several gall bladder calculi were visualized, what appeared to be normal psoas shadows and peritoneal fat lines were seen, and the conclusion was that the abdomen was negative for evidence of ruptured hollow viscus. Sagittal view of the chest revealed the lungs to be well

ventilated, no evidence of acute process going on in the lungs or mediastinum at all. On the fourth of June a portable P-a chest was taken.

X-Ray Discussion: Dr. Vincent Ravel:

Here are the biliary calculi, there is no air visualized under the diaphragm. The final film shows areas of confluency which were consistent with infarction. There is gas in the stomach, there is not a great amount of ileus here, I cannot identify small bowel gas.

Dr. Wade:

Well, in summary, we have an emaciated 51-year-old female who is known to have lost 30 pounds weight the previous year. She is admitted with symptoms of an abdominal catastrophe of some sort. She is not in shock. Her laboratory work and examination show her to be slightly jaundiced with an elevated serum amylase and marked leucocytosis. On the second day she shows a falling serum calcium and acidosis. She became confused, hyperpyrexia and she died on the third day.

What I would like to do is mention a number of conditions I think should be considered in the differential diagnosis. I will tell you which of these conditions I think most likely to have been present and then make my own diagnosis. Some of these are very unlikely, I just bring them up because they manifest themselves as abdominal catastrophes and should be at least thought of in passing.

Of course first on the list is perforated ulcer. In perforated ulcer 90% of the cases occur in males and in 80 or 87% of the cases free air can be seen under the diaphragm. She did not have this air under the diaphragm. I might mention at this point that you don't always see free air under the diaphragm in the first film specially if it is taken early after the onset of the perforation. It is wise to repeat the X-ray later. Of course here we have a chest film done a couple of days later and there is still no free air visible, so I would rule out perforated ulcer.

Ruptured abdominal abscess: In my experience this is a very unusual situation and usually is a complication of a tubo-ovarian abscess which was localized and then ruptured free into the peritoneal cavity. Of course this leads to signs of a

serious surgical abdomen. A pelvic examination would have been helpful, we are not told what it was in this lady; however, her age I think probably speaks against this diagnosis.

Mesenteric thrombosis: Arterial mesenteric thrombosis which is usually fatal occurs often after embolus either from rheumatic fever, auricular fibrillation, or after a myocardial infarction, or it may occur as primary mesenteric thrombosis associated with severe generalized arteriosclerosis. The picture is really different from the one she presented. There is usually more ileus, sometimes blood from the rectum and really less of an abdominal rigidity and guarding. I would exclude this diagnosis.

Dissecting aneurysm: Well, traditionally we look for unequal pulses in the groin, if it's an abdominal dissection, shock is usually present, and the X-ray may show marked widening of the aorta in the abdominal region.

A ruptured arteriosclerotic aneurysm of the aorta presents itself as a catastrophe. Of course you should be able to feel the aortic aneurysm in this instance.

Ruptured esophagus: This goes unrecognized in many cases. The terminal esophagus low in the mediastinum or even in the upper abdomen can rupture and lead to either severe chest signs mimicking myocardial infarct, or severe upper abdominal signs. I have seen one patient that was explored for acute surgical abdomen and nothing was found and the patient went on to die, and at autopsy he had a ruptured esophagus. However, typically in this instance you expect to get mediastinal emphysema that you can see on the chest X-ray and eventually crepitus in the supraclavicular fossae, but it is a diagnosis to keep in mind.

Rare and Interesting

Now there are a few rare things that I think are interesting but not very practical: malaria—malaria will present sometimes a severe abdominal pain, and some of these people get operated on. It occurs as a rule during a hemolytic crisis. You would expect to see parasites in the blood smear, the patient should be having chills, and markedly elevated temperatures. This lady did. The following I consider unlikely: sickle cell crisis. Well,

you all know that this can give abdominal pain, it is usually recurrent. Porphyria. You should get change of color of the urine on standing. Lead poisoning—history, basophilic stippling of blood cells, lead-lined gums. Herpes zoster can mimic an acute abdomen, although the distribution is not generalized as it was in her case and of course it is never fatal. Hemorrhage into the rectus abdominus muscle—this can lead people to be operated on in error but certainly wouldn't produce the severe picture she had. Pulmonary disease can produce signs of acute abdomen—pneumothorax, pneumonia, she certainly doesn't have these. Myocardial infarcts—we are all aware of this. One diagnosis that I have never seen myself but I try to keep in mind is arachnidism, bite from a black widow spider. This will produce apparently a severe abdominal pain but also tends to produce generalized muscular aches and pains. It ordinarily is not fatal, except in children or infants, it is not associated with a leucocytosis and fever, it may be associated with bradycardia, which she did not have.

Three Diagnoses

Well, now we get down to three diagnoses that I think are worthy of serious consideration. What about a ruptured gall bladder. This patient is a female, about the right age group, we know she has gall stones, and she has a little jaundice. Ruptured gall bladder usually occurs after an episode of acute cholecystitis. To develop the present clinical picture the rupture would have to have been a free intraperitoneal rupture which in my experience is very unusual. Usually a gall bladder is pretty well walled off. However, it may occur and we cannot exclude this diagnosis except for the serum amylase which is elevated and inclines us more toward the diagnosis of acute pancreatitis.

Another diagnosis which is very rare but otherwise would probably fit is acute phlegmonous gastritis. I have never seen a case but a few have been reported in the literature, it is a phlegmonous infection involving the wall of the stomach frequently due to clostridial organisms. The patient then could present just such a picture like this. The diagnosis is really made only at the time of surgery. Apparently some of these people do recover with antibiotics. I don't know how you can

definitely exclude this diagnosis except that the amylase makes us inclined toward pancreatitis and the phlegmonous gastritis is so unusual.

Acute Pancreatitis

Well, finally my diagnosis on this patient is acute pancreatitis. I think most things fit here. There are two forms of pancreatitis, acute and chronic. In the acute form we have the mild edematous pancreatitis, and the severe hemorrhagic necrotizing pancreatitis. Some authorities say hemorrhagic pancreatitis occurs in females much more commonly, in my experience I must admit it is more common in males. There are several pre-disposing factors, obesity, alcoholism, many patients give a history of ingesting a large meal just before the onset, 85 per cent of these cases have cholelithiasis.

I think she had the typical picture of hemorrhagic pancreatitis, the edematous form which is not always fatal, and shock may be a prominent part of the picture, and it concerns me a little that she was not in shock on admission. Many of these patients will have mild icterus, maybe due to hemolysis of the large amount of extravasated retroperitoneal blood or due to a little obstruction of the common duct. Many of these patients complain of severe back pain but this is not necessarily so. Mental confusion has been a prominent part of the picture. In the cases that I have seen a real fulminating psychosis is not very uncommon. The serum amylase is characteristically elevated. I just might mention in passing that I don't feel that the serum amylase determination is an infallible test. It can be elevated in a number of other conditions such as obstruction, perforated ulcer, even after non-specific trauma. Ordinarily it does not rise to these high levels, so I think this is important confirmatory evidence that she has pancreatitis. Very often in acute pancreatitis the serum calcium will fall and interestingly enough it did just so in this patient, it falls 36 to 48 hours after the episode. Traditionally we are taught that this occurs because there is an extravasation of lipase from the crowded pancreas, this breaks down the fat into glycerin and fatty acids and the fatty acids bind calcium to make soap. Actually there has been some work done to indicate that the explanation is not quite as simple and that the saponification is due to an enzyme in the blood stream which alters the form

of the fats and bind the calcium actually within the circulating fluid of the body.

Leucocytosis

Leucocytosis is to be expected at the level that this patient exhibited. Albuminuria is a very common finding in pancreatitis. You can also find glycosuria. I have not talked very much about the white cells in this patient's urine, and I might be missing a very important clue, but I am just kind of passing that off as coincidental evidence of lower urinary tract infection, I don't think it has anything to do with her death.

Now, what other diagnostic measures could have been carried out in this patient? Aspiration of the peritoneal cavity is sometimes helpful, I am not a great advocate of this, but when you suspect a pancreatitis and are concerned that you might have a surgical abdomen, it might be very helpful to pass a needle or little catheter into one of the lower abdominal quadrants to aspirate fluid and get an amylase determination on it; this may help you out of a difficult situation.

What about therapy for pancreatitis? She was treated according to all the accepted methods, nothing by mouth, gastric suction, elimination of vagus action and antibiotics. Blood is used if there is evidence of falling hemoglobin, and fluid replacement as indicated.

Surgery Contra-indicated

Surgery ordinarily is contra-indicated if you are sure of the diagnosis, of pancreatitis. Some people advocate operation to make sure there is not a common duct stone. Most authorities feel that this is meddlesome if you are sure of the diagnosis.

Two other therapeutic measures might be mentioned: (1) there is the use of cortisone, there are reports of several patients who were dying of acute hemorrhagic pancreatitis and who made a dramatic recovery with the use of cortisone. Why this should be is not clear. (2) There is also the use of paravertebral blocks at about T-12 to relieve pain. This can be dramatically successful in some cases. I don't know if it would have helped here.

My diagnosis is acute hemorrhagic pancreatitis with death. I would also not be too surprised if she turned out to have a ruptured gall bladder with generalized peritonitis on that basis.

Dr. Francisco Licon:

I would like to inquire whether there is any relation between pancreatitis and frequent pregnancies.

Dr. Ben Taber:

Well, I am afraid I can't be of much help because I have never seen too much pancreatitis during pregnancy and I have never been too much impressed that pancreatitis was that much more common in the pregnant population than in the non-pregnant population. It is interesting, as I saw this protocol and then looked up the date, it turns out that I was the physician that gave the narcotic for pain to this patient. She was a maid of one of my patients and she was brought in to me to see what was wrong. I said I don't know, you better take her down to the county hospital, but she was in such excruciating pain she came in doubled over. My impression was the pain was more upper than lower quadrant pain and that it was a chronic type of illness with acute exacerbation.

Dr. William Gaddis:

It is interesting that this patient lost 30 pounds of weight and yet had a good appetite. This is unusual to see in patients who have malignant disease but is not uncommon in chronic or inflammatory disease of the intestinal tract or of the associated structures. It makes one wonder whether this patient had had a chronic disease in the upper GI tract for some time that did not interfere with her appetite but certainly interfered with her absorption and so brought about a malnutrition problem.

Dr. Kleban:

I wonder if the members of the house staff who had this patient would care to justify their water and electrolyte treatments. Her insensible loss is about 1000 cc, we have one urine output recorded of 1400 cc. which would make 2400 cc. plus the extra amount of water that she lost in sweat due to the fever, and I think she had a requirement of at least 3000 to 4000 cc. Now ordinarily when you

over load an individual with electrolyte solution they will either go into pulmonary vascular congestion or pulmonary edema or they will develop edema, depending on which side of the heart fails first, which side of the heart is primarily overloaded. Now whether or not this woman's heart stroke, which actually is what she had, on the day of death, whether that was due to the pathological process or whether that was due to an intracellular water deficit, either relative or absolute, I think is a little difficult to say.

Clinical Diagnosis: Acute abdomen

Dr. Wade's Diagnosis: Acute pancreatitis

Pathological Discussion: Dr. F. P. Bornstein:

On autopsy we found a middle aged, fairly well developed, well nourished woman who had an obvious peritonitis. Large amounts of fresh fibrin were seen covering the intestinal loops. There was about 500 cc. of cloudy exudate in the peritoneal cavity. We then started to search for the more obvious causes of peritonitis. The appendix was intact, the gall bladder was intact, but contained a number of stones, the stomach was intact, the internal genitals were intact. Upon entering the retro-peritoneal space, we found numerous pus pockets on the superior margin of the pancreas and small pus pockets in the minor omental bursa. The pancreas was markedly indurated. It did not show any evidence of primary hemorrhage or fat necrosis but was lying in indurated fat tissue which contained numerous abscesses. I think this was enough irritation to the pancreas to explain the elevated amylase. The tail of the pancreas posteriorly was lying in a large abscess cavity. The source of the abscess was found in the left kidney which on the anterior surface had a large so-called carbuncle originating in a primary peri-renal abscess. This represented the primary inflammatory source which had produced a phlegmonous inflammation in the retro-peritoneal space with penetration and secondary acute peritonitis.

Pathological Diagnoses: 1. Peri-renal abscess, left. 2. Metastatic abscess in retro-peritoneal space, minor omental bursa and pancreas. 3. Acute metastatic peritonitis.



Southwestern Physicians' Directory



SAUL B. APPEL, M.D.

Certified by the American Board of Internal Medicine

CARDIOVASCULAR DISEASES

Suite 10E 1501 Arizona Ave.
KE 3-5201 EL PASO MEDICAL CENTER El Paso, Texas

ARTESIA MEDICAL CENTER

Phone:
Henry L. Wall, M.D., Suite A SH 6-2311
General Practice
Robert W. Harper, M.D., Suite B SH 6-2531
Surgery and Gynecology
Owen C. Taylor, Jr., M.D., Suite C SH 6-2521
General Practice
C. Pardue Bunch, M.D., Suite D SH 6-3321
General Practice
Gerald A. Slusser, M. D., Suite E SH 6-2441
Surgery
X-ray and Medical Laboratory SH 6-4200
Fourth and Washington Artesia, New Mexico

ANDREW M. BABEY, M. D.

Certified by the American Board of Internal Medicine

CARDIOVASCULAR DISEASES

250 West Court Avenue Jackson 4-4481 Las Cruces, N. M.

FRANK O. BARRETT ANESTHESIOLOGY ASSOCIATES

J. A. Shugart, M.D.

(Diplomate American Board of Anesthesiology)

Jack Walker, M.D., J. W. Redelfs, M.D., Jack Ellis, M.D.
B. F. Fehlman, M. D., C. G. Race, M.D.

— ANESTHESIOLOGY —

El Paso Medical Center KE 3-8431 1501 Arizona Ave.
El Paso, Texas

OTTO L. BENDHEIM, M. D.

DIPLOMATE AMERICAN BOARD OF PSYCHIATRY &
NEUROLOGY

5051 N. 34th Street CRestwood 7-7431 Phoenix, Arizona

RAYMOND J. BENNETT, M. D.

Diplomate of the American Board of Neurology and Psychiatry

PRACTICE LIMITED TO NEUROPSYCHIATRY

Suite 7A El Paso Medical Center 1501 Arizona Avenue
Phone KE 2-1177 El Paso, Texas

JACK A. BERNARD, M.D., F.A.C.P.

Diplomate American Board Internal Medicine

INTERNAL MEDICINE

CARDIOVASCULAR DISEASES

Suite 3C El Paso Medical Center 1501 Arizona Avenue
Phone KE 3-8151 El Paso, Texas

VICTOR M. BLANCO, M.D.

Diplomate of the American Board of Surgery

GENERAL AND CANCER SURGERY

205 University Towers Building
1900 N. Oregon St. KE 3-5519 El Paso, Texas

CLEMENT C. BOEHLER, M. D., F.A.C.S.
H. W. DEMAREST, M.D., F.A.C.S.

Diplomates American Board Obstetrics and Gynecology

Suite 8-A Medical Center 1501 Arizona Avenue
Phone KE 2-6591 El Paso, Texas

FREDERICK P. BORNSTEIN, M.D.

Certified by the American Board of Pathology
in Pathologic Anatomy and Forensic Pathology

102 University Towers Bldg.
1900 N. Oregon St. KE 2-3901 El Paso, Texas

LOUIS W. BRECK, M.D.

W. COMPERE BASOM, M.D.

MORTON H. LEONARD, M.D.

MARIO PALAFOX, M.D.

ZIGMUND W. KOSICKI, M.D.

ADRIAN L. GRASS, M.D.

The El Paso Orthopaedic Surgery Group

1220 N. Stanton St. Telephone KE 3-7465 El Paso, Texas

3500 Physicians Road

Southwestern Medicine

BASIL K. BYRNE, M.D., F.A.A.P.

IRVIN J. GOLDFARB, M.D.

Diplomates American Board of Pediatrics
PEDIATRICS

Suite 4A El Paso Medical Center 1501 Arizona Avenue
KE 3-8487 El Paso, Texas

ROBERT J. CARDWELL, M.D.

(Diplomate American Board of Obstetrics and Gynecology)

608 University Towers Building

1900 N. Oregon St. KE 3-7587 El Paso, Texas



Southwestern Physicians' Directory



ROBERT N. CAYLOR, M.D.

Practice Limited to Ophthalmology

508 University Towers Building

1900 N. Oregon St. KE 3-4907 El Paso, Texas

WILLIAM I. COLDWELL, M.D.

Certified by the American Board of Internal Medicine

INTERNAL MEDICINE

501 University Towers Building

1900 N. Oregon St. KE 2-2661 El Paso, Texas

BRANCH CRAIGE, M.D., F.A.C.P.

(Certified by American Board of Internal Medicine)

INTERNAL MEDICINE

Suite 5B El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-7121 El Paso, Texas

E. S. CROSSETT, M.D.

Diplomate American Board of Thoracic Surgery

GEORGE W. IWEN, M.D.
THORACIC SURGERY

Cardiovascular Surgery Broncho-Esophagology

Suite 11-D KE 3-8511 or KE 2-2474 1501 Arizona Ave.
El Paso Medical Center El Paso, Texas

WICKLIFFE R. CURTIS, M. D., F.A.C.S.

JAMES D. BOZZELL, M.D., F.A.C.S.

Diplomates American Board of Urology

PRACTICE LIMITED TO UROLOGY

Suite 3B El Paso Medical Center 1501 Arizona Avenue
Phone KE 3-1426 El Paso, Texas

RITA L. DON, M.D.

Allergy

102 University Towers Building

1900 N. Oregon St. KE 2-3901 El Paso, Texas

ANTONIO DOW, M.D., F.A.C.S.

(Diplomate of American Board of Surgery)

GENERAL SURGERY

205 University Towers Building

1900 N. Oregon St. KE 2-7305 El Paso, Texas

HAROLD D. DOW, M.D.

FREDERICK J. KOBERG, M.D.

General Practice — Surgery

Box 456
702 Hobbs Road Phone 3641 Seminole, Texas

ORVILLE EGBERT, M.D., F.A.C.P.

Diplomate American Board of Internal Medicine

EDWARD EGBERT, M.D., F.C.C.P.

DISEASES OF THE CHEST
ALLERGY

Suite 3-E, El Paso Medical Center

1501 Arizona Ave. KE 2-1645 El Paso, Texas

JOHN A. EISENBEISS, M.D., F.A.C.S.

WILLIAM B. HELME, M.D.

Diplomates of the American Board of Neurological Surgery

NEUROSURGERY

926 E. McDowell Road AL 4-3151 Phoenix, Arizona

WARD EVANS, M.D., F.A.C.S.

(Diplomate American Board of Surgery)

SURGERY

608 University Towers Building

1900 N. Oregon St. KE 3-7587 El Paso, Texas

LESTER C. FEENER, M.D., F.A.C.P.

Diplomate American Board of Internal Medicine

INTERNAL MEDICINE

CARDIOVASCULAR DISEASES

404 Banner Bldg. KE 2-5771 El Paso, Texas

2021 N. Central Ave. AL 3-4131

DOUGLAS D. GAIN, M.D.

JOHN W. KENNEDY, M.D.

JAMES R. MATHESON, M.D.

FRANK TOLONE, M.D.

Diplomates of American Board of Radiology
X-RAY THERAPY and DIAGNOSIS
RADIUM THERAPY

Phoenix

Arizona

ALBERT A. GEMOETS, M.D.

Member American Academy of General Practice

GENERAL PRACTICE

3726 1/2 Alameda Ave. KE 3-7689 El Paso, Texas

H. M. GIBSON, M.D., F.A.C.S.

Certified by American Board of Urology

PRACTICE LIMITED TO UROLOGY

512 University Towers Building

1900 N. Oregon St. KE 2-8130 El Paso, Texas

L. A. GLADSTONE, M.D.

W. D. FEINBERG, M.D.

INTERNAL MEDICINE

Bldg. 14 Suite D 1501 Arizona Ave.
El Paso Medical Center KE 3-2508 El Paso, Texas



Southwestern Physicians' Directory



JAMES J. GORMAN, M.D., F.A.C.P.

Diplomate American Board of Internal Medicine

DIAGNOSIS — GASTROENTEROLOGY

701 First National Building KE 2-6221 El Paso, Texas

J. LEIGHTON GREEN, M.D., F.A.C.S.

GENERAL and GYNECOLOGICAL SURGERY

Suite 3A El Paso Medical Center 1501 Arizona Avenue
Phone KE 2-9790 El Paso, Texas

RALPH G. GREENLEE, M.D., F.A.C.P.

Diplomate American Board of Internal Medicine

INTERNAL MEDICINE

401 N. Garfield Mutual 4-8072 Midland, Texas

DRS. HART, BOVERIE, BLACK,
CLAYTON, GREEN & WHITE

PATHOLOGICAL AND CLINICAL LABORATORIES
X-RAY DIAGNOSIS AND THERAPY

Radioactive
Isotopes

Cobalt
Beam Therapy

Pathology

M. S. HART, M.D.

C. L. GREEN, M.D.

Diplomates American Board of Pathology

R. F. BOVERIE, M.D.

G. L. BLACK, M.D.

R. S. CLAYTON, M.D.

J. E. WHITE, M.D.

Diplomates American Board of Radiology

MELVIN A. LYONS, M.S.H.A.

Business Manager

El Paso Medical Center Medical Arts Building
1501 Arizona Ave., Suite 2A 415 E. Yandell Drive, Suite 105
KE 3-4478 KE 3-6926

EL PASO, TEXAS

SOL HEINEMANN, M.D., F.A.C.S.

Diplomate, American Board of Urology

UROLOGY

212 University Towers Bldg.
1900 N. Oregon St. LI 2-1539 El Paso, Texas

SOLOMON HELLER, M.D.

INTERNAL MEDICINE

Hematology—Endocrinology

505 University Towers Building
1900 N. Oregon St. KE 3-0406 El Paso, Texas

HERBERT E. HIPPS, M.D.

ORTHOPEDIC SURGERY

1612 Columbus Ave. 4-4701 Waco, Texas

RUSSELL HOLT, M.D.
B. LYNN GOODLOE, M.D.

GENERAL and GYNECOLOGICAL SURGERY

MEDICAL ARTS BUILDING

415 East Yandell Blvd. KE 3-3443 El Paso, Texas

RALPH H. HOMAN, M.D., F.A.C.P.

CARDIOLOGY

ROBERT B. HOMAN, JR., M.D., F.A.C.S.

DISEASES OF THE CHEST — THORACIC SURGERY

Suite 7D El Paso Medical Center 1501 Arizona Avenue
Phone KE 3-1409 El Paso, Texas

GEORGE W. HORTON, M.D.

PRACTICE LIMITED TO ORTHOPEDICS

513 West 4th Street Federal 2-1271 Odessa, Texas

LOUIS G. JEKEL, M.D.

ROBERT H. SNAPP, M.D.

Diplomates American Board of Dermatology

DERMATOLOGY

550 W. Thomas Rd. CR 4-4901 Phoenix, Ariz

3500 Physicians Road

Southwestern Medicine

W. A. JONES, M.D.

Diplomate American Board of Neurological Surgery

K. ZOLFOGHARY, M.D.,

NEUROLOGICAL SURGERY

Suite 1C El Paso Medical Center 1501 Arizona Avenue
KE 2-7579, KE 3-9076 El Paso, Texas

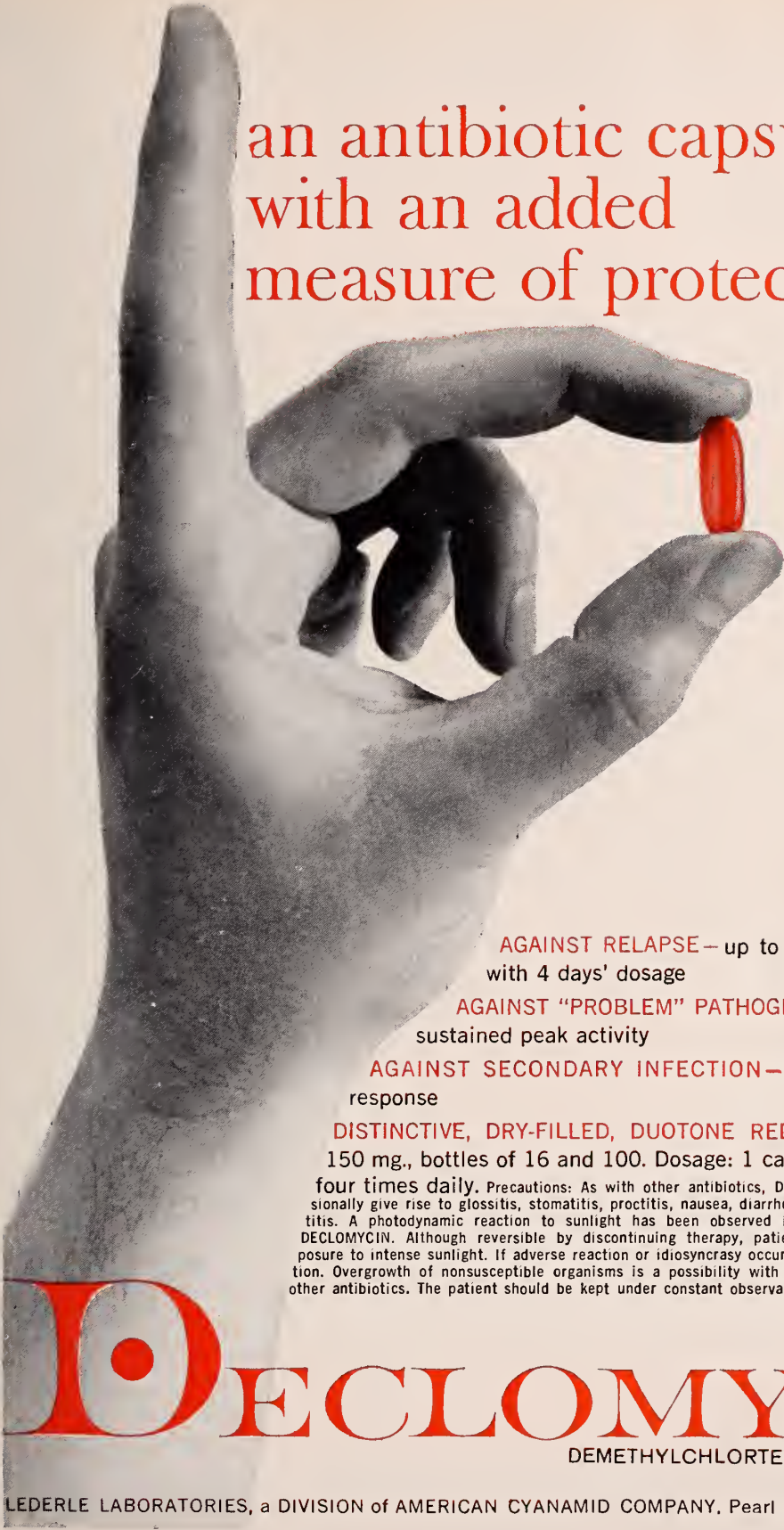
G. H. Jordan, M.D., F.A.C.S. C. E. Webb, M.D., F.A.C.S.

DRS. JORDAN AND WEBB

Diplomates American Board of Surgery

GENERAL and GYNECOLOGICAL SURGERY

Suite 7B El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-1693 El Paso, Texas



an antibiotic capsule
with an added
measure of protection

AGAINST RELAPSE—up to 6 days' activity
with 4 days' dosage

AGAINST "PROBLEM" PATHOGENS—uniformly
sustained peak activity

AGAINST SECONDARY INFECTION—full antibiotic
response

DISTINCTIVE, DRY-FILLED, DUOTONE RED CAPSULES—
150 mg., bottles of 16 and 100. Dosage: 1 capsule (150 mg.)

four times daily. Precautions: As with other antibiotics, DECLOMYCIN may occasionally give rise to glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis or dermatitis. A photodynamic reaction to sunlight has been observed in a few patients on DECLOMYCIN. Although reversible by discontinuing therapy, patients should avoid exposure to intense sunlight. If adverse reaction or idiosyncrasy occurs, discontinue medication. Overgrowth of nonsusceptible organisms is a possibility with DECLOMYCIN, as with other antibiotics. The patient should be kept under constant observation.

DECLOMYCIN[®]

DEMETHYLCHLORTETRACYCLINE LEDERLE

LEDERLE LABORATORIES, a DIVISION of AMERICAN CYANAMID COMPANY, Pearl River, New York





Southwestern Physicians' Directory



LINDELL M. KINMAN, M.D.

Diplomate American Board of Urology

UROLOGY

300 West Alameda Phone MA 2-4111 Roswell, N. Mex.

M. NATHAN KLEBAN, M.D.

Certified by American Board of Internal Medicine

Internal Medicine

610 University Towers Building

1900 N. Oregon St. KE 2-7079 El Paso, Texas

J. T. KRUEGER, JR., M.D.

THORACIC and CARDIOVASCULAR SURGERY

PO 3-8281

1910 Knoxville Ext 250 Lubbock, Texas

GILBERT LANDIS, M.D., F.A.C.S.

Diplomate American Board of Obstetrics & Gynecology

OBSTETRICS, GYNECOLOGY
and GYNECOLOGICAL SURGERY

Suite 15-D KE 3-5023 1501 Arizona Ave.
El Paso Medical Center El Paso, Texas

ROYCE C. LEWIS, JR., M.D.

Diplomate American Board of Orthopedic Surgery

ORTHOPEDIC SURGERY and SURGERY OF THE HAND

1910 Knoxville St. PO 3-8281 Lubbock, Texas

A. L. LINDBERG, M.D.

Neoplastic Diseases

TUCSON TUMOR CLINIC

721 N. 4th Ave. MA 3-2531 Tucson, Arizona

CHARLES P. C. LOGSDON, M.D.

CARDIOLOGY

415 E. Yandell Blvd. KE 3-7916 El Paso, Texas

TRUETT L. MADDOX, D.D.S.

ORAL SURGERY

Suite 9A El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-3659 El Paso, Texas

WALTER B. MANTOOTH, JR., M. D.

Dermatology and Cancer of the Skin

Suite 101 Lubbock
3801 19th Street SWift 9-4359 Texas

GEORGE B. MARKLE, IV, M.D.

Diplomate of the American Board of Surgery

GENERAL and GYNECOLOGICAL SURGERY

911 North Canal TU 5-5240 Carlsbad, New Mexico

HOWARD J. H. MARSHALL, M.D.

Member American Academy of General Practice

GENERAL PRACTICE

Suite BE 1501 Arizona Avenue
El Paso Medical Center KE 2-2431 El Paso, Texas

MARSHALL CLINIC

I. J. Marshall, M.D.

General Surgery and Diagnosis

U. S. Marshall, M.D.

General Surgery and General Practice

E. A. Latimer, M.D.

General Practice

C. H. Fowler, M.D.

Internal Medicine and Cardiology

Thomas J. Jones, M.D.

Diseases of the Skin and Allergies

H. D. Johnson, Jr., D.D.S.

ROS WELL

NEW MEXICO

MEDICAL CENTER HOSPITAL AND CLINIC

Eugene McCarthy, M.D., FACS, FICS

Diplomate American Board of Obstetrics & Gynecology

Jeff H. Davis, M.D., AAGP; Joe J. Horn, M.D., AAGP

Howard Handcock, M.D., DABR

A. B. Cairns, M.D., FACCP; W. Ralph Thomas, M.D.
220 St. Louis St. CA 4-7426 Plainview, Texas

LEROY J. MILLER, M.D.

Diplomate American Board of Neurological Surgery

NEUROLOGICAL SURGERY

717 Encino Place, NE Phone 3-1150 Albuquerque, N. M.

A. WILLIAM MULTHAUF, M.D., F.A.C.S.

UROLOGICAL DIAGNOSIS AND SURGERY

1315 First National Bldg. KE 3-8986 El Paso, Texas



Southwestern Physicians' Directory



E. K. NEIDICH, M.D., D.A.B.R.

RADIOLOGY

Memorial General Hospital Jackson 6-2411 Las Cruces, N. M.

WALLACE E. NISSEN, M.D., F.A.C.S.
W. W. KRIDELBAUGH, M.D., F.A.C.S.

GENERAL SURGERY

Medical Arts Square
801 Encino Place, Suite 35 3-2251 Albuquerque, N. M.

F. KEITH OEHLISCHLAGER, M.D.
WILLIAM M. BRANTLEY, M.D.

OBSTETRICS & GYNECOLOGY

1167 E. 42nd St. Sherwood Medical Center Phone
Suites 5 & 6 Odessa, Texas EM 6-4447

THE ORTHOPEDIC CLINIC

Orthopedic Surgery

W. A. BISHOP, JR., M.D., F.A.C.S.
ALVIN L. SWENSON, M.D., F.A.C.S.
RAY FIFE, M.D.
SIDNEY L. STOVALL, M.D., F.A.C.S.
THOMAS H. TABER, JR., M.D., F.A.C.S.

Diplomates of the American Board of Orthopedic Surgery
2620 North Third Street—Phone CRestwood 7-6211—Phoenix, Ariz.

JAMES M. OVENS, M.D.
F.A.C.S., F.I.C.S.

Diplomate American Board of Surgery

CANCER AND TUMOR SURGERY
X-RAY AND RADIUM THERAPY

608 Professional Building AL 8-8074 Phoenix, Ariz.

ROBERT E. PARKINS, D.D.S.

GENERAL DENTISTRY

Bldg. I, Suite E 1501 Arizona Ave.
Phone KE 3-1245 El Paso Medical Center El Paso, Texas

MURRAY PERSKY, M.D.

PSYCHIATRY

Suite 15-B 1501 Arizona Ave.
El Paso Medical Center KE 2-7952 El Paso, Texas

JACK C. POSTLEWAITE, M.D.

Diplomate American Board of Internal Medicine

INTERNAL MEDICINE

Suite 5D 1501 Arizona Ave.
El Paso Medical Center KE 2-1385 El Paso, Texas

HUMBERTO QUIRARTE, M.D.

Practice Limited to Urology

204 Medical Arts Building
415 E. Yandell Drive KE 2-2193 El Paso, Texas

DONALD RATHBUN, M.D.

NEUROLOGY

and

Internal Medicine

Suite 4B KE 2-8778 1501 Arizona Ave.
El Paso Medical Center El Paso, Texas

VINCENT M. RAVEL, M.D.

Diplomate American Board of Radiology

Radiology — Radio-Isotopes

Cobalt⁶⁰ — Teletherapy

101 University Towers Bldg.
El Paso KE 2-3459 Texas

HERMAN RICE, M.D.

Practice Limited to General Surgery

El Paso Medical Center
Bldg. 4-B 1501 Arizona Ave.
Phone KE 3-8051 El Paso, Texas

RISSLER-WOLLMANN CLINIC

ROSS W. RISSLER, M.D., F.A.C.S.
(Certified by the American Board of Internal Medicine)
INTERNAL MEDICINE — CARDIOLOGY

WALTER W. WOLLMANN, M.D., F.A.C.S.
(Certified by the American Board of Surgery)
GENERAL SURGERY

2001 Grant Ave. KE 3-1601 El Paso, Texas

*3500 Physicians Road
Southwestern Medicine*

CECIL A. ROBINSON, M.D., F.A.C.S.

Diplomate American Board of Orthopaedic Surgery

Orthopaedic Surgery

111 No. Pine Street JU 6-2541 Kermit, Texas

Bone section: erosion
and purulent exudate



Therapeutic confidence

Panalba is effective against more than 30 commonly encountered pathogens including ubiquitous staphylococci. Right from the start, prescribing it gives you a high degree of assurance of obtaining the desired anti-infective action in this as in a wide variety of bacterial diseases.

in osteomyelitis

Supplied: Capsules, each containing Panmycin* Phosphate (tetracycline phosphate complex), equivalent to 250 mg. tetracycline hydrochloride, and 125 mg. Albamycin,* as novobiocin sodium, in bottles of 16 and 100.

*Trademark, Reg. U. S. Pat. Off.

The Upjohn Company
Kalamazoo, Michigan

Upjohn

Panalba*



your broad-spectrum
antibiotic of *first* resort



Southwestern Physicians' Directory



S. PERRY ROGERS, M.D.
W. HUNTER VAUGHAN, M.D.
(Diplomates American Board of Orthopedic Surgery)
ORTHOPEDIC SURGERY

Suite 2B El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-4433 El Paso, Texas

WILLARD W. SCHUESSLER, M.D.
DONALD H. EWALT, M.D.
Diplomates of the American Board of Plastic Surgery
Plastic, Reconstructive Surgery and
Maxillo-facial Surgery

1501 Arizona Ave. Medical Center, Suite 4-C
El Paso, Texas

F. P. SCHUSTER, M.D.
S. A. SCHUSTER, M.D.
NEWTON F. WALKER, M.D.
BRADFORD HARDIE, M.D.

EYE, EAR, NOSE AND THROAT-BRONCHOSCOPY
First National Bldg. KE 2-1495 El Paso, Texas

O. J. SHAFFER, D.D.S., F.A.C.D.
(Diplomate American Board of Oral Surgery)

ORAL SURGERY

Suite 1D El Paso Medical Center 1501 Arizona Ave.
Phone KE 3-6742 El Paso, Texas

D. J. SIBLEY, JR., M.D.

GENERAL PRACTICE

Box 367 Phone 584 Ft. Stockton, Texas

EUGENE P. SIMMS, M.D.

— GENERAL PRACTICE —

Medical Arts Center

1213 Tenth Street HEmlock 7-1720 Alamogordo, N. M.

Leslie M. Smith, M.D. John C. Wilkinson, M.D.
H. D. Garrett, M.D.

DRS. SMITH, GARRETT & WILKINSON

Diplomates American Board of Dermatology
DISEASES OF THE SKIN

Suite 3D El Paso Medical Center 1501 Arizona Ave.
Phone KE 3-6172 El Paso, Texas

WILLIAM G. SMITH, M.D.
Diplomate American Board of Proctology
Practice Limited to Surgical Diseases
of the Anus, Rectum and Colon

Suite 203 415 E. Yandell Drive El Paso
KE 2-3286 Texas

C. M. STANFILL, M.D.

Diplomate American Board of Otolaryngology

EAR, NOSE AND THROAT
Stapes Mobilization

507 University Towers Building
1900 N. Oregon St. KE 2-9449 El Paso, Texas

ROBERT HEALY STEVENS, B.S., M.D.
F.C.C.P.

ALLERGY — INTERNAL MEDICINE

1313 N. Second St. AL 4-8841 Phoenix, Arizona

C. S. STONE, M.D., F.A.C.S.
A. J. JENSON, B.A., M.D.

Phones: 3-5323 — 3-3033 — 3-4427
301 East Cain Street Hobbs, N.M.

JESSON L. STOWE, M.D.
GRAY E. CARPENTER, M.D.

GYNCOLOGY AND OBSTETRICS

2323 Montana Avenue KE 2-4631 El Paso, Texas

WINSLOW P. STRATEMEYER, M.D.

Diplomate American Board of Neurological Surgery

NEUROLOGICAL SURGERY

Suite 11A Office KE 2-9167 1501 Arizona Ave.
El Paso Medical Center Home JU 4-0553 El Paso, Texas

M. D. THOMAS, M.D.

Diplomate American Board of Anesthesiology

Suite 12-D KE 3-3745
1501 Arizona Ave. El Paso, Texas
El Paso Medical Center

3500 Physicians Road

Southwestern Medicine

ROBERT F. THOMPSON, M.D., F.A.C.S.

(Certified by American Board of Urology)

UROLOGY

301 University Towers Building
1900 N. Oregon St. KE 2-4321 El Paso, Texas



Southwestern Physicians' Directory



TURNER'S CLINICAL & X-RAY LABORATORIES

GEORGE TURNER, M.D.
DELPHIN von BRIESEN, M.D.
HELEN W. ANDERSON, M.D.

MEDICAL CENTER

1501 Arizona Ave.
Building No. 6

Phone: KE 2-4689
El Paso, Texas

HARRY H. VARNER, M.D.
LEIGH E. WILCOX, M.D.
RUSSELL L. DETER, M.D.
GENERAL SURGERY

Suite 5E
Phone KE 2-6529

El Paso Medical Center

1501 Arizona Ave.
El Paso, Texas

WILLIAM H. WADE, M.D., F.A.C.S.

Diplomate American Board of Surgery

GENERAL SURGERY
CARDIOVASCULAR SURGERY

307 Medical Arts Building
415 E. Yandell Drive KE 2-8111 El Paso, Texas

RICHARD P. WAGGONER, M.D.

M.S. (SURG.), F.A.C.S.

GENERAL SURGERY

504 N. Richardson St. Phone 208 Roswell, N. M.

GRADY M. WALLACE, M.D., D.A.B.O.

Practice Limited to the Eye

3801 19th Street SW 9-4343 Lubbock, Texas

Hotel Dieu, Sister's Hospital

Fully Approved by the
Joint Commission on Accreditation
of Hospitals.

Latest Facilities For All Services.
Emergency Service Around
the Clock.

EL PASO, TEXAS

Hotel Dieu School of Nursing

Fully approved by the
National Nursing Accrediting
Service.

Applicants May Apply
To
Sister Aloysius, Director

EL PASO, TEXAS

Hotel Dieu School of Medical Technology

Fully Approved by the American
Medical Association, American
Society of Clinical Pathologists,
and Registry of Medical Tech-
nologists.

EL PASO, TEXAS

The Clinic-Hospital of San Angelo

D. D. WALL, M.D.
Obstetrics & Gynecology
R. M. FINKS, M.D.
Pediatrics
M. D. KNIGHT, M.D.
Surgery
W. H. BRAUNS, M.D.
Internal Medicine

ROY E. MOON, M.D.
Obstetrics & Gynecology
CHAS. F. ENGELKING, M.D.
Ear, Nose and Throat
DALE W. HAYTER, M.D.
Ophthalmology

R. A. MORSE, M.D.
Internal Medicine
RALPH R. CHASE, M.D.
Pediatrics
TOM R. HUNTER, M.D.
Surgery
H. W. DISERENS, M.D.
Pediatrics

Consultant in Pathology: LLOYD R. HERSHBERGER, M.D.

Consultants in Radiology: JOHN E. BALLARD, M. D.; JOHN G. BOLEN, M.D.

224-234 W. BEAUREGARD AVE.

J. B. ADCOCK, Administrator

SAN ANGELO, TEXAS



Southwestern General Hospital

Accredited by the Joint Commission on Accreditation of Hospitals

Member Hospital:

American Hospital Association
Texas Hospital Association
Blue Cross of Texas

•

COTTON AVENUE AND ERIE STREET • EL PASO, TEXAS

OVERTON CLINIC

300 Hughes Building

PAMPA, TEXAS

M. C. Overton, Jr., M.D.
Surgery and Gynecology

E. S. Williams, M.D.
Pediatrics and Obstetrics

J. R. Donaldson, M.D.
Surgery

G. R. Hrdlicka, M.D.
Radiology

C. M. Lang, M.D.
Surgery

R. W. Moore, M.D.
Internal Medicine

DUTTON LABORATORIES

FREDERICK P. BORNSTEIN, M.D.
(Certified by American Board of Pathology)
Pathological Anatomy and Forensic Pathology

RITA L. DON, M.D.
(Associate Fellow, American College of Allergists)
Allergy and Clinical Pathology

JOHN B. FRERICHS, M.D.
(Certified by American Board of Pathology)
Pathological Anatomy and Clinical Pathology

J. A. HANCOCK, Ph.D.
Consultant in Chemistry

616 Mills Bldg.
102 University Towers

KE 2-3901
El Paso, Texas

important new therapy in Peptic Ulcer

cessation of all symptoms and complete healing in 70 out of 78 cases as reported in *Postgraduate Medicine* (Oct.) 1959

"...chymotrypsin offers a new approach to the treatment of peptic ulcer."

In 54 cases, most of them hospitalized, in which chymotrypsin (Chymar) was used in conjunction with other agents "All of the symptoms disappeared and complete healing of the ulcer occurred in 49 (90.7 per cent) of the 54 cases . . ." Average time for cessation of symptoms . . . 6 days; for complete healing . . . 36 days; average follow-up period . . . 12 months. In 24 cases in which Chymar was used alone, "Cessation of all symptoms and complete healing occurred in 21 (87.5 per cent) of the 24 cases . . ." Average time for cessation of symptoms . . . 5.8 days; for complete healing . . . 24 days; average follow-up period . . . 25.5 months.

Conclusions: "Because of the excellent results obtained in 78 cases of peptic ulcer . . . I strongly recommend its use as a most valuable adjunct in the treatment of this disease."*

*Mozan, A. A.: *Postgraduate Med.* 26:542, 1959

the superior anti-inflammatory enzyme
Chymar[®]
chymotrypsin Buccal/Aqueous/Oil

controls inflammation, swelling and pain



Pretreatment roentgenogram made on January 26, 1957 shows a large niche on the upper third of the lesser curvature.

Roentgenogram made on February 23, 1957 shows only a slight indentation on the lesser curvature.

CHYMAR Buccal—Crystallized chymotrypsin in a tablet formulated for buccal absorption. Bottles of 24 tablets. Enzymatic activity, 10,000 Armour Units per tablet.

CHYMAR Aqueous—Solution of crystallized chymotrypsin in sodium chloride injection for intramuscular use. Vials of 5 cc. Enzymatic activity, 5000 Armour Units per cc.

CHYMAR—Suspension of crystallized chymotrypsin in oil for intramuscular injection. Vials of 5 cc. Enzymatic activity, 5000 Armour Units per cc.



ARMOUR PHARMACEUTICAL COMPANY
KANKAKEE, ILLINOIS
Armour Means Protection

© 1960, A. P. Co.

Give Us A Trial On Your

TAYLOR BACK BRACE

Orders

- Send the following measurements: from level of shoulders to tip of sacrum; circumference of pelvis above trochanters; circumference of waist; height and weight.

CHRISTOPHER'S BRACE AND LIMB CO.

2231 Montana St.

KE 2-9690

EL PASO, TEXAS

UNIFORMS

Doctors • Nurses • Interns • Technicians

Poplin, Nylon, Dacron
White and Colors

SURE-FIT UNIFORM CO.

612 N. Oregon St. KE 2-1374 EL Paso, Texas

C. G. McDow and Son, Props.

Rio Grande Pharmacy

419-421 South Stanton St. KE 2-4473 EL Paso, Texas

Only At The Popular In El Paso . . .
Kuppenheimer Suits

POPULAR DRY GOODS CO.



GUNNING & CASTEEL DRUG STORES

"There is no finer prescription service . . . anywhere"

14 Conveniently Located Stores

El Paso, Texas

TAYLOR-SIMPKINS, INC.

MEDICAL OXYGEN

2123 Texas St. KE 3-0952 El Paso, Texas
Nights — Call LO 5-0359, or LO 5-3060



MEDICAL CENTER PHARMACY

YOUR PROFESSIONAL PHARMACY
IN THE NEW MEDICAL CENTER

PHONE 2-6968-69

1501 ARIZONA ST.

EL PASO, TEXAS

We Carry A Complete Line of

DIABETIC FOODS AND SUPPLIES

McKEE PRESCRIPTION PHARMACY

107 East San Antonio Ave., El Paso
Dial KE 2-2693

For Your Convenience

Use Our Handy Charge-A-Plate Service!

the white house

El Paso, Texas

RICHARD E. MARTIN

MARTIN MORTUARY

Dial KE 2-3691

710 N. Stanton St.

El Paso, Texas

HARDING AND ORR Funeral Home

EL PASO, TEXAS

320 Montana Ave.

KE 3-1646

Kaster & Maxon

Funeral Home

El Paso, Texas

KE 2-3431



Front View — Enclosed Patio

Sandia Ranch Sanatorium

Rt. 4, Box 4104

Phone 4-3273

Albuquerque, New Mexico

Licensed by State Health Department as a Psychiatric Hospital of 50 Beds
For the Care and Treatment of Nervous or Mental Disorders

VARIOUS ACCEPTED FORMS OF THERAPY AVAILABLE

OCCUPATIONAL THERAPY AND OUTDOOR ACTIVITIES

CLINICAL LABORATORY AND ELECTROENCEPHALOGRAM

LIMITED FACILITIES FOR DOMICILIARY CARE

Favorable Year Round Climate — 20 Acres Landscaped Grounds

JOHN W. MYERS, M.D., Medical Director

ALAN JACOBSON, M.D., Psychiatrist

FRED W. LANGNER, M.D., Psychiatrist

Southwestern Surgical Supply Company

Your Complete Source in The Southwest

For All

Ethical Medical Equipment
and Supplies

EL PASO

ALBUQUERQUE

PHOENIX

FOSFREE[®]

The Answer to
the Problem
of Pregnancy

NAUSEA

ANEMIA

LEG CRAMPS

Small · Tasteless · Inexpensive

Mission PHARMACAL CO.
SAN ANTONIO, TEXAS



For allergy

For itch

In a nation-wide clinical trial, 183 physicians have reported on the first 1000 cases of allergy and/or pruritus treated with Forhistan. In the 539 cases in which a comparison was made, Forhistan was judged better than previous therapy in 8 out of 10 patients. *Watch your mail for more details of this important study*, and for complete information about Forhistan, including dosage, side effects and cautions.

SUPPLIED: *Tablets*, 1 mg. (pale orange, scored). *Lontabs*, 2.5 mg. (orange). *Syrup* (pink), containing 1 mg. Forhistan maleate per 5-ml. teaspoon. *Pediatric Drops* (pink), containing 0.5 mg. Forhistan maleate per 0.6 ml.

FORHISTAL® maleate (dimethpyrindene maleate CIBA)
LONTABS® (long-acting tablets CIBA)

C I B A
SUMMIT, NEW JERSEY

new
Forhistan®
rated better
than previous
therapy in
8 cases
out of 10

2/2072MK



it's clear

IN SINUSITIS, COLDS AND UPPER RESPIRATORY DISORDERS

DIMETAPP[®] Extentabs[®]

LET YOUR PATIENTS BREATHE EASIER!

In sinusitis, colds and other upper respiratory and allergic disorders, new DIMETAPP Extentabs offer more useful decongestant therapy.

UNSURPASSED RELIEF OF NASAL CONGESTION: In DIMETAPP Extentabs, the unexcelled antihistamine, Dimetane, and two outstanding decongestants—phenylephrine and phenylpropanolamine—promptly dry secretions and reduce edema and congestion in the nose, the sinuses, and the upper respiratory tract.

CLEAR BREATHING FOR 12 HOURS ON 1 TABLET: Long-acting DIMETAPP Extentabs offer up to 12-hour relief on just one tablet. Easier-to-use DIMETAPP reaches into areas which nose drops or

sprays can't touch—without rebound congestion.

EXCEPTIONAL FREEDOM FROM SIDE EFFECTS: DIMETAPP Extentabs are exceptionally free of side reactions. Dimetane offers a high percentage of relief with only drowsiness as a possible, infrequent side effect. Small, fully efficient dosages of decongestants minimize overstimulation.

DIMETAPP Extentabs contain Dimetane[®] (parabromdylamine [brompheniramine] maleate) 12 mg., phenylephrine HCl 15 mg., and phenylpropanolamine HCl 15 mg.

DOSAGE: Adults—1 Extentab q. 8-12 hours. Children over 6—1 Extentab q. 12 hours. Administer with caution to patients with cardiac or peripheral vascular diseases and hypertension, and to those sensitive to antihistamines. See package insert for further details and bibliography.

A. H. Robins Co., Inc., Richmond 20, Virginia
ETHICAL PHARMACEUTICALS OF MERIT SINCE 1878



as powerful as the narcotics
in cough suppression...
but much longer acting

NON-NARCOTIC
ULO[®]
Chlophedianol HCl
SYRUP



**one teaspoonful affords
4 to 8 hours' freedom
from cough distress**

ULO maintains its maximal cough-suppressant effect undiminished for 4 to 8 hours, thus calling for fewer daytime doses and usually providing freedom from cough distress through the night.

notable safety

There are no known contraindications. Free from the undesirable side actions of narcotics. Side effects such as nausea and transient dizziness occur infrequently.

**extensive clinical
experience**

Used in thousands of patients with acute cough from any cause, ULO has proved as effective as narcotics but superior to them in duration of action.

Write for Physicians' Reference Brochure with full bibliography.

For Children, too

Exceptionally well tolerated; no narcotic overlay; compatible with other indicated medications.



Narthritis, California

Janet Doe, Librarian
New York Academy of Medicine
2 East 103 Street
New York 29, New York

Southwestern MEDICINE

Official Journal of The Southwestern Medical Association, The Western Association of Railway Surgeons, The Texas Orthopaedic Association, The Southwest Obstetrical and Gynecological Society, The Southwestern Dermatological Society, Texas District One Medical Association, The Southwestern New Mexico Medical Society, and El Paso County Medical Society

BZ
IN
THIS
ISSUE

THE N.Y. ACADEMY
OF MEDICINE
FEB 15 1961
LIBRARY

Santa Fe Seminar
Management
of Acute Renal Failure
Page 71

Experimental
Fetal Bone Grafts
Page 80

The Premenstrual Syndrome
Analysis and Treatment
Page 84

COMPLETE CONTENTS ON PAGE 62

February, 1961



Founded 1916

*What does high "ABA"
mean to you?*

High serum levels of antibacterial activity mean fewer treatment failures in severe infections or in infections only marginally sensitive to penicillin. In other words, high "ABA" means . . .

*consistently dependable
clinical results*



V-CILLIN K[®]

(penicillin V potassium, Lilly)

intense antibacterial activity

V-Cillin K produces greater antibacterial activity in the serum against the common pathogens than any other oral penicillin.¹⁻³

unsurpassed safety

No form of penicillin has been shown to be less allergenic or less toxic than V-Cillin K.^{4,5}

proved clinical effectiveness

Documented experience with penicillin V and potassium penicillin V reveals the clinical excellence of V-Cillin K.

*Eli Lilly and Company
Indianapolis 6, Indiana, U.S.A.*

133216

Now at lower cost to your patient

Prescribe V-Cillin K, in scored tablets of 125 and 250 mg., or V-Cillin K, Pediatric, in 40 and 80-cc. bottles.

References

1. McCarthy, C. G., and Finland, M.: Absorption and Excretion of Four Penicillins, *New England J. Med.*, 263:315, 1960.
2. McCarthy, C. G., Hirsch, H. A., and Finland, M.: Serum Levels after Single Oral Doses of 6-(α -phenoxypropionamido) Penicillanate and Penicillin V, *Proc. Soc. Exper. Biol. & Med.*, 103:177, 1960.
3. Griffith, R. S.: Comparison of Antibiotic Activity in Sera after the Administration of Three Different Penicillins, *Antibiotic Med. & Clin. Therapy*, 7:129, 1960.
4. Editorial: *New England J. Med.*, 263:361, 1960.
5. Editorial: *New York J. Med.*, 60:498, 1960.

widely used...
widely useful...



PRO-BANTHINE® with DARTAL®

In Emotionally Based Smooth-Muscle Spasm

The wide variation in severity of emotionally based gastrointestinal dysfunctions requires a wide range of therapeutic control. Pro-Banthine with Dartal combines, in a single tablet, both therapeutic activity and flexibility to relieve the psychic stress and the enteric distress of such dysfunctions.

Clinical trials^{1,2} demonstrate that Dartal may be used to treat successfully a wide range of emotional disturbances through simple adjustment of dosage. Similarly, the usual daily dosage of Pro-Banthine may be doubled or tripled without appreciably increasing the incidence or severity of secondary effects³ and tablets of plain Pro-Banthine may be added to the antispasmodic-tranquilizing regimen of Pro-Banthine with Dartal when profound suppression of gastrointestinal hyperactivity is indicated.

Combination of the outstanding anti-

cholinergic, Pro-Banthine, with the well-tolerated tranquilizer, Dartal, provides the therapeutic reliability needed in the management of emotionally influenced smooth-muscle spasm.

specific clinical applications: Functional gastrointestinal disturbances, gastritis, pylorospasm, peptic ulcer, spastic colon (irritable bowel), biliary dyskinesia.

dosage: One tablet three times daily.

supply: Aqua-colored, compression-coated tablets containing 15 mg. of Pro-Banthine (brand of propantheline bromide) and 5 mg. of Dartal (brand of thiopropazate dihydrochloride).

1. Hock, C. W.: Treatment of Gastrointestinal Disorders with an Anticholinergic Tranquilizer Combination, *J. M. A. Georgio* 48:218 (May) 1959. 2. Investigators' Clinical Reports: Analysis of reports by 117 physicians in 500 patients. 3. Borowsky, H., Schwartz, S. A., and Lister, J.: Experience with Short-Term Intensive Anticholinergic Therapy of Peptic Ulcer, *Am. J. Gastroenterol.* 27:156 (Feb.) 1957.

G. D. SEARLE & CO.

Research in the Service of Medicine

43237

Southwestern Medicine

*The U. S.-Mexico Regional Medical Journal Serving West
Texas, New Mexico, Arizona, Nevada and Northern Mexico*

Official Journal of

The Southwestern Medical Association, The Western Association of
Railway Surgeons, The Texas Orthopaedic Association, The
Southwest Obstetrical and Gynecological Society, The
Southwestern Dermatological Society, Texas District
One Medical Association, The Southwestern New
Mexico Medical Society, and El Paso County
Medical Society

VOL. XLII FEBRUARY, 1961 No. 2

BOARD OF MANAGERS

Sherwood Burr, M.D.	Leland Evans, M.D.
Harold J. Beck, M.D.	Darwin Neubauer, M.D.
David Russek, M.D.	Carlos Tapia, M.D.
M. D. Thomas, M.D.	Louis W. Breck, M.D.
John Dettweiler, M.D.	H. D. Garrett, M.D.
Russell L. Deter, M.D.	Jack A. Bernard, M.D.
Louis G. Jekel, M.D.	Morton H. Leonard, M.D.
John F. Wanless, M.D.	

EDITOR

Lester C. Feener, M.D.
404 Banner Building, El Paso, Texas

MANAGING EDITOR

Louis W. Breck, M.D.
1220 North Stanton Street, El Paso, Texas

ASSOCIATE EDITORS

Branch Craige, M.D. Maurice P. Spearman, M.D.

ADVERTISING AND SUBSCRIPTION OFFICES

Mott, Reid & McFall
Publishers

310 N. Stanton St., El Paso, Texas

Publication Office

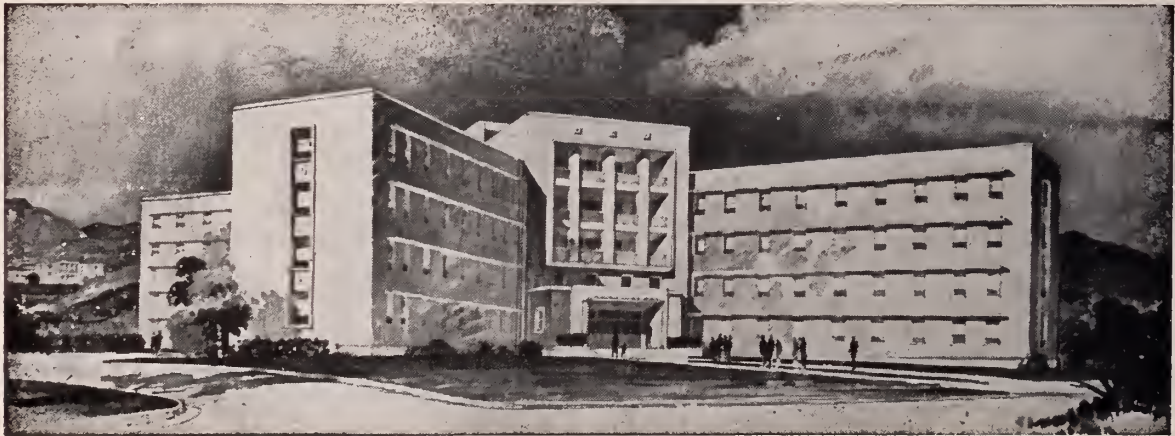
265 Texas St., Fort Worth, Texas

Subscription Price \$5.00 — Single copies 50c

Published Monthly

Gordon M. Marshall — National Advertising Representative
30 West Washington Street, Chicago, Ill., Dearborn 2-5148;
Eastern Office — John H. Hinse, Room 340, 15 West 44th Street
New York 36, Oxford 7-5262.

Second-class mail privileges authorized at Fort Worth, Texas.
Postmaster: All undeliverable copies returnable under Form 3579
should be to Southwestern Medicine, 310 North Stanton Street,
El Paso, Texas.



Providence Memorial Hospital

The Modern Hospital of the Southwest

APPROVED BY THE JOINT COMMISSION ON ACCREDITATION OF HOSPITALS

COMPLETE DIAGNOSTIC and TREATMENT FACILITIES

ISOTOPE THERAPY AND STUDIES

COBALT 60 ROTATIONAL TELETHERAPY UNIT


OUTSTANDING CHEMISTRY LABORATORY

FACILITIES FOR PSYCHIATRIC THERAPY

ELECTROENCEPHALOGRAPHIC LABORATORY

2001 North Oregon Street

• El Paso, Texas



sedative-
enhanced
analgesia

for more satisfactory relief of anxiety-aggravated pain

PHENAPHEN[®]

- More satisfactory than "the usual analgesic compounds" for relieving pain and anxiety.¹
- More effective than a standard A.P.C. preparation for relief of moderate to severe pain.²

Each PHENAPHEN capsule contains:

Acetylsalicylic acid (2½ gr.) 162 mg.
Phenacetin (3 gr.) 194 mg.
Phenobarbital (¼ gr.) 16.2 mg.
Hyoscyamine sulfate 0.031 mg.

Also available:

PHENAPHEN with CODEINE PHOSPHATE
¼ GR. (16.2 mg.) Phenaphen No. 2
PHENAPHEN with CODEINE PHOSPHATE
½ GR. (32.4 mg.) Phenaphen No. 3
PHENAPHEN with CODEINE PHOSPHATE
1 GR. (64.8 mg.) Phenaphen No. 4

Bottles of 100 and 500 capsules.

1. Meyers, G. B.: Ind. Med. & Surg. 26:3, 1957. 2. Murray, R. J.: N. Y. St. J. Med. 53:1867, 1953.

A. H. ROBINS CO., INC., RICHMOND 20, VIRGINIA

Making today's medicines with integrity...seeking tomorrow's with persistence.





*The
Extra
Measure
of
Caution...*

Tetracycline now combined with the new, more active antifungal antibiotic—Fungizone—for broad spectrum therapy/antimonilial prophylaxis

A new advance in broad spectrum antibiotic therapy, MYSTECLIN-F provides all the well-known benefits of tetracycline and also contains the new, clinically proved antifungal antibiotic, Fungizone. This Squibb-developed antibiotic, which is unusually free of side effects on oral administration when given in oral prophylactic doses, has substantially greater in vitro activity than nystatin against strains of *Candida* (*Monilia*) *albicans*.

Thus, in addition to providing highly effective broad spectrum therapy, MYSTECLIN-F prevents the monilial overgrowth in the gastrointestinal tract so commonly associated

with such therapy. It helps to protect the patient from troublesome, even serious, monilial complications.

New Mysteclin-F provides this added antifungal protection at little increased cost to your patients over ordinary tetracycline preparations.

Available as: MYSTECLIN-F CAPSULES (250 mg./50 mg.) MYSTECLIN-F HALF STRENGTH CAPSULES (125 mg./25 mg.) MYSTECLIN-F FOR SYRUP (125 mg./25 mg. per 5 cc.) MYSTECLIN-F FOR AQUEOUS DROPS (100 mg./20 mg. per cc.)

For complete information, consult package insert or write to Professional Service Department, Squibb, 745 Fifth Avenue, N. Y. 22, N. Y.

SQUIBB



*Squibb Quality —
the Priceless Ingredient*

**NEW
MYSTECLIN-F**

Squibb Phosphate-Potentiated Tetracycline (SUMYCIN) plus Amphotericin B (FUNGIZONE)

MYSTECLIN®, SUMYCIN® AND FUNGIZONE® ARE SQUIBB TRADEMARKS



For allergy

For itch

In a nation-wide clinical trial, 183 physicians have reported on the first 1000 cases of allergy and/or pruritus treated with Forhistan. In the 539 cases in which a comparison was made, Forhistan was judged better than previous therapy in 8 out of 10 patients. *Watch your mail for more details of this important study*, and for complete information about Forhistan, including dosage, side effects and cautions.

SUPPLIED: *Tablets*, 1 mg. (pale orange, scored). *Lontabs*, 2.5 mg. (orange). *Syrup* (pink), containing 1 mg. Forhistan maleate per 5-ml. teaspoon. *Pediatric Drops* (pink), containing 0.5 mg. Forhistan maleate per 0.6 ml.

FORHISTAL® maleate (dimethpyrindene maleate CIBA)
LONTABS® (long-acting tablets CIBA)

C I B A
SUMMIT, NEW JERSEY

new
Forhistan®
rated better
than previous
therapy in
8 cases
out of 10

2/2872MK

Contents

Santa Fe Seminar — Management of Acute Renal Failure Page 71

St. Vincent Hospital, Santa Fe, N.M.

Chairman: Harry D. Ellis, M.D.

Case Presentation: Howard Seitz, M.D.

Seminar Summary: Cecil Dillingham, M.D.

Experimental Fetal Bone Grafts Page 80

**By P. M. Overton, M.D., Resident, Orthopedic
Surgery, Parkland Memorial Hospital, Dallas;**

**and C. F. Gregory, M.D., Professor of Orthopedic
Surgery, University of Texas Southwestern Medical
School, Dallas.**

The Premenstrual Syndrome; Analysis and Treatment Page 84

**By Samuel D. Soule, M.D., Washington University
School of Medicine, St. Louis.**

COMING MEETINGS

American Society of Internal Medicine, Regional Meeting, Phoenix, Feb. 25, 1961.

Scott and White Clinic, 9th Annual Medical Conference in Medicine and Surgery, Temple, Texas, Mar. 5-7, 1961. AAGP Credit, 18 Hrs.

Texas Orthopaedic Association, Galveston, Texas, April 24, 1961.

New Mexico Medical Society, 79th Annual Meeting, La Fonda Hotel, Santa Fe, May 16-20, 1961.

United States-Mexico Border Public Health Association, Annual Meeting, San Diego, June 25-29, 1961.

Southwest Obstetrical & Gynecological Society, Eleventh Annual Meeting, Konakai Club, San Diego, Oct. 15-17, 1961.

Southwestern Medical Association, 43rd Annual Meeting, Tropicana Hotel, Las Vegas, Nev., Oct. 19-21, 1961.

Urised combats bacteria while providing soothing relief in cystitis, urethritis, pyelitis, pyelonephritis, and prostatitis. Urised avoids toxic reactions or drug resistance.

as a first choice **URISED[®]**
is effective in 80 to 90%
of urinary infections^{1,2,3,4} (no side effects reported)

Each Urised tablet contains: Atropine Sulfate 1/2000 gr., Hyoscyamine 1/2000 gr., Methenamine, Methylene Blue, Benzoic Acid, Salol and Gelsemium. *Supplied:* Bottles of 100.

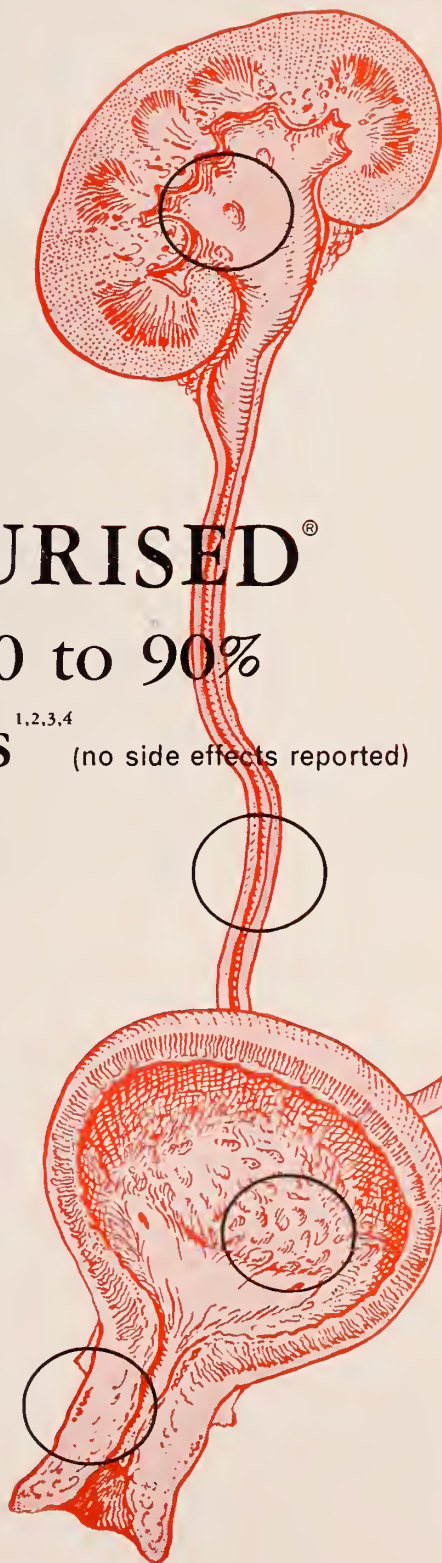
(1) Marshall, W.: Clin. Med. 7:499-502, 1960; (2) Haas, J., and Kay, L. L.: Management of Urinary Tract Infections (to be published); (3) Renner, J., et al.: Urinary Tract Infections: Treatment with Antiseptic-Antispasmodic Agent (to be published). (4) Strauss, B.: Clin. Med. 4: 309-310, 1957



Rx URISED[®]

CHICAGO PHARMACAL COMPANY

5547 N. Ravenswood Ave., Chicago 40, Ill.



New approach to acne



pHisoHex[®] and pHisoAc[®] Cream

"No patient failed to improve" when pHisoHex (containing 3 per cent hexachlorophene) was added as the antibacterial wash to the standard treatment for acne. pHisoHex provides not only superior cleansing but also continuous antibacterial action for patients with acne. Now, with new pHisoAc keratolytic cream the management of patients with acne is simplified and even more effective. pHisoAc is applied topically once or twice daily to suppress and mask lesions and to dry, peel and degerm the skin. When used together, pHisoHex and pHisoAc are a potent complementary combination against acne.

Winthrop

LABORATORIES
New York 18, N. Y.

1. Hodges, F.T.: GP 14:86, Nov., 1956.

pHisoHex and pHisoAc, trademarks reg. U. S. Pat. Off.

Q
U
A
L
I
T
Y

TIDI

P
A
P
E
R
S

EXAMINATION TABLE ROLLS

All Sizes Available

Smooth and Crepe Paper

PROFESSIONAL TOWELS

Best Quality Cellulose

White and Green

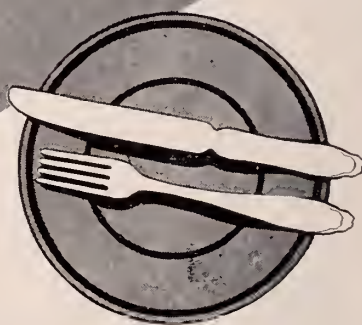
ASK YOUR SUPPLIER FOR TIDI.

TIDI PRODUCTS are always of best quality,
uniform, and economical in use.

Distributed throughout the USA

M'fd. by TIDI PRODUCTS, Pomona, California

FETAMIN FOR OBESITY



- More Powerful
- Less Pressor Activity
- Avoids Nervous Side Effects
- Complete Dietary Supplement



Mission
PHARMACAL CO.

SAN ANTONIO, TEXAS

the new Isolyte[®] Family

A MODERN CONCEPT IN FLUID REPLACEMENT



DON BAXTER, INC. • GLENDALE, CALIFORNIA

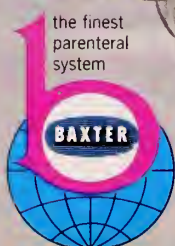
ISOLYTE® SOLUTIONS

Composition per Liter

Solution	Dextrose Gm.	Milliequivalents										Calories	mOs.
		Na ⁺	K ⁺	Ca ⁺⁺	Mg ⁺⁺	NH ₄ ⁺	Cl ⁻	Lact ⁻	Acet ⁻	Cit ³⁻	HPO ₄ ⁼		
Isolyte® M Maintenance with 5% Dextrose For routine maintenance in adults and older children	50	40	35	—	—	—	40	20	—	—	15	180	400
Isolyte P Pediatric Maintenance For routine maintenance in infants and younger children	50	25	20	—	3	—	22	23	—	—	3	180	350
Isolyte E Extracellular Replacement in Water For replacement of intravascular, interstitial, transcellular losses other than gastric	—	140	10	5	3	—	103	—	47	8	—	10	320
Isolyte E Extracellular Replacement with 5% Dextrose For use as above	50	140	10	5	3	—	103	—	47	8	—	180	570
Isolyte G Gastric Replacement with 10% Dextrose For replacement of gastric loss due to suction or vomiting	100	63	17	—	—	70	150	—	—	—	—	340	800
Also 2 New Potassium Solutions: Kodalex® L (20 mEq. K ⁺ and Cl ⁻ /L.) 0.15% Potassium Chloride with 5% Dextrose in Water	50	—	20	—	—	—	20	—	—	—	—	170	290
Kodalex M (40 mEq. K ⁺ and Cl ⁻ /L.) 0.3% Potassium Chloride with 5% Dextrose in Water	50	—	40	—	—	—	40	—	—	—	—	170	330

the new Isolyte® Family

SIMPLIFIES COMPLETE ELECTROLYTE THERAPY



DON BAXTER, INC. • GLENDALE, CALIFORNIA



a more effective,
more pleasant
way to treat
dry...itchy skin
Alpha-Keri®
*water dispersible, antipruritic oil
for the bath or shower*

Alpha-Keri makes dry skin feel soft and smooth immediately . . . soothes the skin and stops itching. Alpha-Keri deposits a microfine, lubricant-moisturizing oil film over the entire skin area . . . hydrating the keratin and preventing it from drying out. It is particularly effective in replacing the action of skin lipids lost by the dehydrating effects of soap, water and weather. Alpha-Keri may be added to the bath or sponged on the wet skin while showering.

Alpha-Keri is the first and only completely water-dispersible, antipruritic oil combining mineral oil and a keratin moisturizer. Contains Kerohydric® (brand of dewaxed, oil-soluble, keratin-moisturizing fraction of lanolin), mineral oil and a special nonionic emulsifier. Alpha-Keri disperses immediately and completely in water. Available in bottles of 8 fl. oz.

Write for samples and literature.

WESTWOOD PHARMACEUTICALS, BUFFALO 13, NEW YORK

PROSTALL[®]

for Prostatic Hypertrophy

FACTS

FACT 1. Prostatectomy can often be avoided by expectant medical treatment.¹

FACT 2. More than 50% of men over 45 develop benign prostatic hypertrophy.²

FACTS

FACT 3. Prostall capsules reduce prostatic enlargement in 92% of cases.³

FACT 4. Prostall capsules effectively relieve prostatic symptoms as follows:

FACTS

nocturia 95%, urgency 81%, frequency 73%, discomfort 71% and starting delay 70%.⁴

FACT 5. Prostall causes no side effects.⁴ No contraindications.

PROSTALL capsules contain 6 gr. of glycine (aminoacetic acid), alanine and glutamic acid in biochemical combination.

DOSAGE: 2 capsules t.i.d. after meals for two weeks, thereafter 1 capsule t.i.d. for at least three months. Repeat if symptoms recur.

1. Chapman, T.L., Expectant treatment of benign prostatic enlargement. *Lancet* 2:684, 1949.
2. Hinman, F., The obstructive prostate, *J.A.M.A.* 135:136, 1947.

3. Feinblatt, H.M., and Gant, J.C., Palliative treatment of benign prostatic hypertrophy, *J. Maine M.A.* 49:99, 1958.

4. *Ibid.* 3, *Southwestern Med.* 40:109, 1959.

Write for Professional Literature

METABOLIC PRODUCTS, CORP.
LITTLE BUILDING • BOSTON 16, MASS.

Training Fellowship

in rheumatology to start July 1, 1961, in Tucson, Arizona, at Tucson Medical Center and Pima County General Arthritis Clinics operated by Southwest Chapter, Arthritis and Rheumatism Foundation under supervision of medical advisory committee.

Stipend, which includes travel, is adjustable according to time spent.

Contact

W. L. BENSON

Arthritis and Rheumatism Foundation

4817 East Copper St.

Tucson, Arizona

Southwestern Surgical Supply Company

Your Complete Source in The Southwest
For All
Ethical Medical Equipment
and Supplies

EL PASO

ALBUQUERQUE

PHOENIX

How Does DEVEREUX Serve the Retarded Child?

DEVEREUX SCHOOLS have provided, for nearly fifty years, educational and treatment facilities for children and young adults with impaired intellectual or neurological functioning. A comprehensive pre-enrollment evaluation of each child determines his placement in one of the homogeneous, separate, and self-contained school or community units. Experienced physicians, psychiatrists, psychologists, and educational and vocational specialists attend the child, assess his capabilities, and institute a program to develop them to the fullest extent. Each child benefits from individual instruction and proven training techniques.

Physicians and parents in the Southwest please write direct to
Devereux Schools of Texas, Box 336, Victoria, Texas.

JOHN M. BARCLAY, *Administrator*

GEORGE A. CONSTANT, M.D., *Psychiatric Consultant*

WILLIAM A. GOODSPEED, M.S., *Psychologist*

THE DEVEREUX FOUNDATION

A nonprofit organization

Founded 1912

Devon, Pennsylvania

Santa Barbara, California

Victoria, Texas

**SCHOOLS
COMMUNITIES
CAMPS
TRAINING
RESEARCH**

HELENA T. DEVEREUX

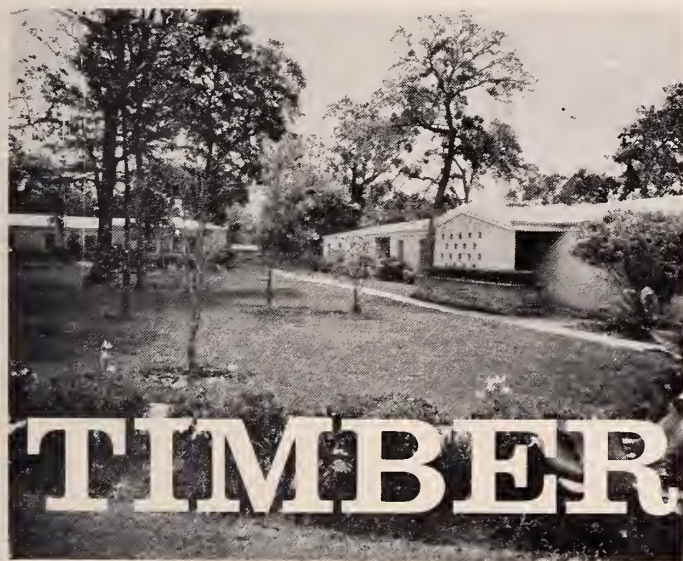
Administrative Consultant

EDWARD L. FRENCH, PH.D.

Director

WILLIAM B. LOEB

Treasurer



PSYCHIATRIC HOSPITAL

DAY HOSPITAL

DEPARTMENT OF OUT PATIENT PSYCHIATRY

TIMBERLAWN FOUNDATION

For Education and Research in Psychiatry

Narcotic Cases Not Admitted

TIMBERLAWN

PSYCHIATRIC CENTER

PERRY C. TALKINGTON, M.D., *Clinical Director*

CHARLES L. BLOSS, M.D., *Medical Director*

Associate Psychiatrists

HOWARD M. BURKETT, M.D.

JAMES K. PEDEN, M.D.

WARD G. DIXON, M.D.

JERRY M. LEWIS, M.D.

C. L. JACKSON, M.D.

RALPH M. BARNETTE, JR., B. B. A., *Business Manager*

Clinical Psychology

PHILIP ROOS, PH. D.

DONALD BERTOCH, M. A.

Social Work

BILL M. TURNAGE, M.S.S.W.

ROBERT L. COATES, M.S.S.W.

GERALDINE SKINNER, B.S., O.T.R., *Director of Occupational Therapy*

LOIS TIMMINS, PH. D., *Director of Recreational Therapy*

FRANCES LUMPKIN, R.N., B.S., *Director of Nurses*

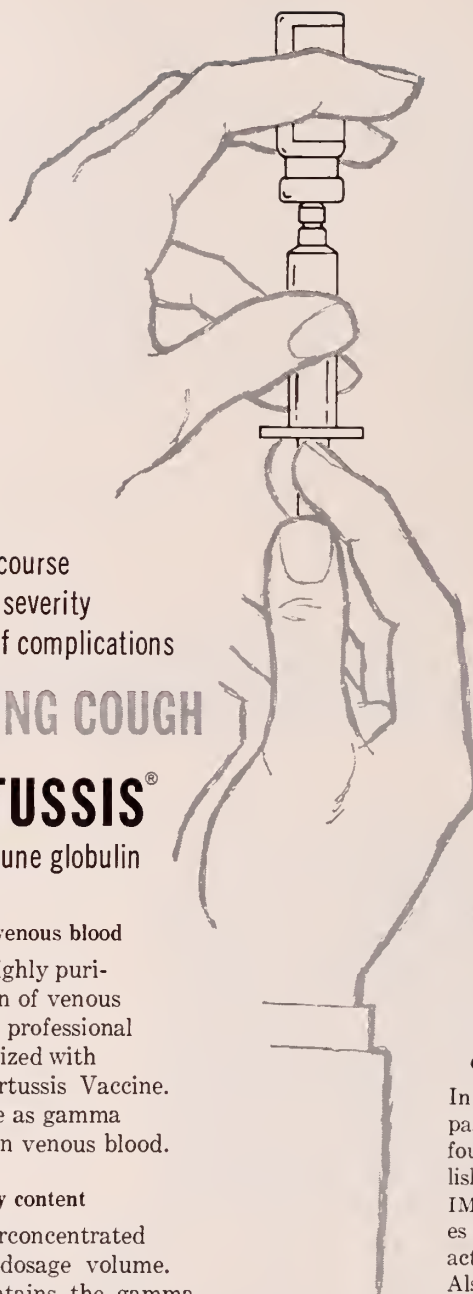
Evergreen 1-2121

Dallas 21, Texas

P. O. Box 1769

FEBRUARY, 1961

69



to shorten the course
lessen the severity
reduce the rate of complications

IN WHOOPING COUGH

HYPERTUSSIS[®]

pertussis immune globulin

derived from human venous blood

Hypertussis is the highly purified globulin fraction of venous blood from healthy professional donors hyperimmunized with Cutter Phase I Pertussis Vaccine. It is as reaction-free as gamma globulin from human venous blood.

high immune antibody content

Hypertussis is superconcentrated to permit smaller dosage volume. A $1\frac{1}{4}$ cc. dose contains the gamma globulin equivalent of approximately 25 cc. of human hyperimmune serum.

Supplied in $1\frac{1}{4}$ cc. vials.

for prevention
or modification

OF MEASLES

Polio IMMUNE GLOBULIN gamma globulin

derived from human blood

In measles prevention effective passive immunity of three to four weeks duration is established. In modification, Polio IMMUNE GLOBULIN reduces severity while allowing full active immunity to develop. Also for prevention of paralytic poliomyelitis, infectious hepatitis, treatment of hypogammaglobulinemia.

Supplied in 2 cc. and 10 cc. vials.

Ask Your Cutter Man
For further information
see PDR, page 576,
or write to Dept. 1-78



CUTTER LABORATORIES • Berkeley, California
Leaders in Human Blood Fractions Research



Santa Fe Seminar

June 28, 1960

St. Vincent Hospital, Santa Fe

Chairman: HARRY D. ELLIS, M.D.

Case Presentation: HOWARD SEITZ, M.D.

Seminar Summary: CECIL DILLINGHAM, M.D.

Management of Acute Renal Failure

Introduction: Dr. Victor Berchtold

I understood Dr. Ellis to say that we were to discuss acute renal failure primarily due to acute tubular necrosis. Other terms have been used in the past to describe this condition, among those commonly used have been lower nephron nephrosis or acute tubular nephrosis. In looking over some of the literature concerning this matter I was surprised to find that the syndrome was first described in 1923 and was apparently forgotten until about 1941. It was re-emphasized again in 1946.

Many Causes

There are many causes of acute renal failure, among them prolonged shock from any cause, severe burns, transfusion reactions, crushing injuries, various drugs, poisons, and of especial importance to the urologist, the hemolysis due to absorption of a hemolyzing solution into the blood stream during a transurethral resection.

I think the latter is one of the good arguments against attempting to resect a very large prostate. The longer the time involved and the more the bladder is distended the more likely you are to produce hemolysis by passage of the irrigating solution into the blood stream. In this respect,

there have been many solutions recommended for irrigation fluid other than sterile water and they are quite widely used.

Reduce Field of Vision

I have never used them because they reduce the field of vision and I've felt that since we know the dangerous situations and can avoid them, excessive hemolysis should not occur.

The safest procedure is to avoid over-distention of the bladder and not to attempt to resect too large a prostate.

Early in the course of acute renal failure oliguria and anuria occur and it is important to be certain of this by measuring the urinary output by catheterization or with an indwelling catheter.

There will be retention of nitrogen, retention of electrolytes, electrolyte imbalance, and retention of water.

Giving Water for Diuresis

Many of us looking back can remember giving large quantities of water in an attempt to bring about diuresis. I think we usually brought about something else. As we have gained knowledge of the pathologic physiology involved in this condi-

tion, therapeutic efforts have been more enlightened and results more encouraging. It is nice to know that the renal tubular epithelium is capable of regeneration and will regenerate if the patient survives long enough.

Various methods of treatment are directed towards permitting survival sufficient for this to take place. The other discussants are going to go into the various details of treatment.

Case Presentation: Dr. Howard Seitz

Record No.: 34258 G. A. Age: 40 years

This middle aged white male restaurant employee was brought to St. Vincent Hospital, March 3, 1960 by friends who found him lying on the floor in his bathroom with his shoulder and arm against a heater. At the time of admission he was confused and unable to give an account of the accident. His friends thought he had probably fallen while taking a shower and they thought that he had been lying, as they found him, for a period of at least several hours.

Minor Burns

Examination on admission revealed minor second degree burns of the right arm, hand and shoulder and a small burn over the left iliac crest. The right arm and shoulder were markedly swollen and there was extensive suffusion of blood into the soft tissues. The right arm and shoulder were completely paralyzed and there was a loss of skin sensation of this extremity. It was initially thought that the man had suffered a fractured humerus, however, the x-rays on admission were negative.

Cold and Clammy

Examination revealed the patient to be in shock, having no obtainable blood pressure, and his skin felt cold and clammy.

After the administration of intravenous glucose the blood pressure rose to 108/68 and the pulse was 96.

The initial blood count revealed 23.2 gms. of Hemoglobin, PCV 67 per cent and a WBC of 27,200 per cmm.

During the first 24 hours of hospitalization the urinary output was 300 cc. The patient appeared to be improving by March 4, 1960; however, the urine output for this 24 hour period was only 100 cc.

On March 5, the patient again became confused and began vomiting. At this time the BUN was found to be 58 mgs/100 ml.; Sodium, 137 mEq/L;

Potassium 4.7 mEq/L; Chlorides, 81 mEq/L.

By March 6, the BUN had risen to 80 mgs./100 ml. and the Potassium to 7.9 mEq/L. Vomiting persisted and the patient continued to be confused and drowsy. Late in the day of 3/6/60 peritoneal lavage was carried out.

On March 7 the patient's sensorium was clearer. The serum Sodium on this date was 130 mEq/L; Chlorides, 92 mEq/L; Potassium, 6.0 mEq/L; and BUN, 92 mgs/100 ml.

During the following five days the patient's clinical condition was moderately improved and the following electrolyte values were noted: 3/8/60: BUN, 79 mgm per cent; Sodium, 132 mEq/L; Potassium, 4.9 mEq/L; Chlorides, 91 mEq/L.

The urinary output was 80 ml. for 3/8/60. 3/9/60: Urine output 950 ml./24 hours. 3/10/60: Urine output 1825 ml., BUN, 98 mgs. per cent, K: 5.0 mEq/L. 3/11/60: Urine output 2200 ml., BUN, 104 mgs. per cent, K: 4.0 mEq/L. 3/13/60: Urine output 2750 ml., BUN, 92 mgs. per cent, K: 3.4 mEq/L.

During the next week the BUN returned to near normal and the patient was discharged in fairly good condition 3/21/60.

Discussion: Dr. R. C. Derbyshire

I would summarize this case very briefly by saying this was a man who developed lower nephron nephrosis or acute tubular necrosis, the cause of which was not known. The history was unobtainable, however, the patient had at least two possible reasons for developing his condition. He was in shock on admission. We do not know how long he was hypotensive before he was found.

Possible Crush Syndrome

A second possible reason would be that this man had a crush syndrome, although this may be a misnomer in this case. He did have the equivalent of a crush injury due to a tremendous hematoma of his arm.

Regardless of why, he did develop classic symptoms of lower nephron nephrosis. I would like to add one thing to the case protocol. During the 24 hour period of March 4, his urinary output was actually 100 cc's, the following day 35 cc's, and the output from then on, I believe, is accurate in the protocol.

This patient gave us an opportunity to try peritoneal dialysis and I would like to discuss this procedure in some detail.

Peritoneal dialysis was first found in 1923 to be a feasible method for removing toxic substances from the blood of patients with renal failure. (1) Acceptance of the method in the United States has been slow because of the many complications which have been reported. The most important of these are peritonitis, overhydration, drainage difficulties, and electrolyte abnormalities.

Hazard of Peritonitis

As recently as 1948 Frank, Seligman, and Fine (2), reporting on a series of patients in whom they had employed a sump drain, stated, "The continuing hazard of peritonitis makes it necessary to regard the method as still in the experimental stages, and it should not be considered for routine clinical use."

After perfection of the artificial kidney, interest in peritoneal dialysis waned further and has only recently been revived mainly by the efforts of Maxwell and his associates (3) and Doolen and his group (4). Maxwell, impressed by the fact that treatment with an artificial kidney remains a formidable and costly procedure and that this technique should be limited to relatively few hospitals serving large population areas, devised an improved method of peritoneal dialysis which will be described this evening. In cooperation with Don Baxter, Incorporated, he and his associates have devised a safe, efficient method and have eliminated the majority of the pitfalls in other methods.

The present technique of peritoneal dialysis is simple, can be initiated at the bedside, and, after the dialysis is well started, can be handled by any intelligent nurse after a few minutes of instruction. The only materials needed are the solutions and tubing, a scalpel, a trocar, a special catheter and sutures. The solutions, tubing and catheter can be obtained from Baxter and arrive sterile and ready for use. It is possible to prepare the solution in the hospital but this is risky as well as cumbersome and time consuming. The appropriate equipment can be stocked by the hospital and is ready for use at all times.

The composition of the dialyzing solution is: Sodium 140 M eq per liter; chloride: 101 M eq. per liter; calcium: 4.0 M eq./L; magnesium: 1.5 m. eq per liter; lactate: 45 m. eq per liter and dextrose: 15 grams per liter. The total osmolarity is 372 milliosmols per liter. It is essentially a potas-

sium free extracellular solution with enough dextrose added to increase the osmolarity to 372 milliosmols per liter, somewhat higher than the levels found in uremic patients. This prevents absorption of the fluid from the peritoneum and over hydration. Potassium is intentionally omitted for use in uremia but may be added when used for barbiturate and other types of poisoning in which the serum potassium level is normal.

To each two liters of solution are added 25 mgm. of tetracycline and 10 mgm. of aqueous heparin. The use of heparin is discontinued after three exchanges if the outflow fluid is not bloody.

The technique of insertion of the catheter is simple and, although a Duke trocar is recommended, the ordinary small paracentesis trocar is adequate. The catheter is constructed of semi-rigid nylon 11 inches long, is slightly curved at the tip and has a rounded, unperforated end. The distal three inches are perforated with multiple small holes with smooth edges placed close together.

Heparin Used

This type of catheter along with the use of heparin does much to eliminate difficulties with outflow caused by plugging by fibrin or with omentum. Another type of catheter, devised by Doolen (4) and his group, seems promising and employs the same principle, the only difference being that the holes are recessed in small grooves which should further help in preventing blockage.

I should like to present briefly the technique of peritoneal dialysis as employed in a recent case. If you are interested in further details I refer you to the excellent articles of Maxwell (3) upon which much of this presentation is based. The trocar is inserted in the lower midline of the abdomen under local anesthesia after meticulous preparation of the skin.

The incision must be small and every effort must be made to obtain a snug fit around the catheter to prevent leakage. After the peritoneum has been entered the stylet is withdrawn and the trocar advanced its full length. The catheter is then inserted and trocar withdrawn. The catheter is aimed dorsally and towards the right or left lumbar gutter. It can be manipulated by changing the direction of the trocar or by direct rotation from the outside.

The catheter is connected to two liters of dialy-

zing fluid by means of a y-tube to which the heparin and tetracycline have been previously added. The fluid is then allowed to flow into the abdominal cavity by gravity which usually requires from five to ten minutes. When the bottles are empty but the tubing still full the tubing is clamped and the bottles placed on the floor beside the bed.

The fluid is allowed to remain in the abdomen for one hour at the end of which the clamps are removed from the tubing and the fluid removed by siphonage. While drainage is taking place two more liters of solution are prepared and at the completion of drainage are connected to the catheter with fresh tubing. Usually between 30 and 50 liters of fluid are used over a period of from 24 to 36 hours depending upon the indications. A careful record of intake and output is kept.

Peritonitis

The most frequently reported complication of peritoneal dialysis, peritonitis, has been largely eliminated by the method described. The essential points are assured sterility of solutions and tubing, the employment of an entirely closed system, the use of new sterile tubing with every addition of fluid, and the prophylactic use of tetracycline. Maxwell (3), reporting 76 cases in which peritoneal dialysis was employed, encountered no instance of peritonitis. Forty three cultures of fluid at the end of dialysis were sterile and in sixteen cases which came to autopsy there was no evidence of peritonitis.

In the case under discussion, for the first few hours considerable difficulty was encountered with outflow, probably due to the fact that with the first introduction of the solution air was allowed to enter the system. This was most troublesome and it was finally necessary to modify the procedure to the extent that for several hours the filling and drainage of the abdominal cavity was made a continuous procedure. But the following day the system began to function much better and complete drainage could be affected in thirty minutes. We never attained the ideal of fifteen to twenty minutes for drainage as described by Maxwell (3).

If peritoneal dialysis is adopted for routine use, there are certain refinements in technique which I believe should be instituted. The patient should be weighed daily as a precaution against overhydration. Frequent cultures should be taken from

the recovered dialyzing fluid. Chemical analyses of the dialysate would also be of value. These measures were not used in this case for various reasons.

Contraindications

There are few absolute contraindications to peritoneal dialysis. The most important is pre-existing peritonitis. A relative contraindication is recent extensive abdominal surgery although this is not regarded as seriously as in the past. Remote abdominal surgery is in itself no contraindication although the site of the scar might influence one in the placing of the catheter and extensive adhesions might preclude the use of the procedure.

The indications for the use of peritoneal dialysis are essentially the same as those for the employment of the artificial kidney. These are not uniform but in general it can be said that clinical signs and symptoms of uremia should be regarded as more definite indications for dialysis than abnormal biochemical findings (5).

Parsons and McCracken found a reliable correlation between daily increments in BUN and the necessity for dialysis. Using early mental symptoms as indications they noted that conservative therapy was adequate when the BUN rose by only 10 mgm. per 100 ml. daily but in patients with daily increments of 15 to 30 mgm. usually one or more dialyses were required. Of course another indication is threatened potassium poisoning not controllable by cation exchange resins.

Peritoneal dialysis has other applications than in renal failure. It is often effective in removing excess fluid in chronic nephritis with edema. In such cases the dialyzing fluid is modified by the addition of glucose to give a concentration of seven per cent. It has also been found to be effective in the treatment of certain cases of poisoning such as those due to barbiturates, boric acid and salicylates.

Boric Acid Poisoning

Recently Segar (6) reported on the use of peritoneal dialysis in boric acid poisoning in three small infants. Exchange transfusions had been of no benefit in removing the poison but peritoneal dialysis removed large amounts as determined by measurements of the recovering fluid. The size of the patient is no contraindication to dialysis and furthermore the artificial kidney has not yet been adapted to use in such small patients.

The mortality rates of artificial kidney centers both in the United States and abroad are consistently about fifty per cent. Although the number of cases in which peritoneal dialysis has been used is smaller, the mortality compares favorably with that following use of the artificial kidney in renal failure. The highest mortality has always occurred in post traumatic cases, the lowest in post partum patients with nephrotoxic renal failure.

Comparison to Renal Dialysis

It might be interesting to compare peritoneal dialysis with dialysis with the artificial kidney. Both methods have certain advantages and disadvantages. A main disadvantage of the artificial kidney is its expense, not only initially but in upkeep and operation. Its use requires a team of experts including two physicians who must be in constant attendance for six hours or more. It requires at least five pints of blood for priming and more in reserve in case of emergency. On the other hand the artificial kidney is more efficient in that the average required time of dialysis is six hours as compared with from 12 to 36 hours in peritoneal dialysis, although the latter eventually accomplishes the purposes as well as the artificial kidney.

It is obvious that in certain cases with absolute contraindications peritoneal dialysis cannot be employed and in such the use of the artificial kidney is mandatory. The main advantages of peritoneal dialysis are its relative simplicity and ease of operation and the fact that it can be started within thirty minutes of the time that it is decided that dialysis is indicated.

It requires a minimum of personnel and after it has been begun it can be operated by any intelligent, well informed nurse. Furthermore, in a small hospital, and the majority of hospitals in this country are in this class, the need for dialysis of any type arises seldom and peritoneal dialysis offers a great advantage under these circumstances.

In conclusion, I am not presenting peritoneal dialysis as a method to be used to the exclusion of the artificial kidney. Each has a definite place and peritoneal dialysis has been presented as an alternative method of treatment which is frequently indicated in preference to the artificial kidney. The equipment for peritoneal dialysis can be stocked in any hospital and kept in readiness at all times.

Dr. Ellis:

I would like to introduce to you Dr. Cecil Dillingham from Albuquerque. Dr. Dillingham is in charge of the artificial kidney unit at the Lovelace Clinic, and we are fortunate indeed that he has consented to come to Santa Fe tonight to discuss this important means of treating acute renal failure. Dr. Dillingham.

Use of Artificial Kidney: Dr. Cecil Dillingham

In the protocol I see that I am placed between two rather formidable rivals, these being peritoneal dialysis and exchange resins. I would like to allay this competitive idea, however, because the artificial kidney is certainly not a rival of these other methods of treating acute renal failure.

At first I felt hemodialysis was a desperation measure, used only when all else had failed. I now consider this wrong. I would like to make three points briefly about acute renal failure and present a short case.

First, if possible, let us prevent renal shut down. The methods, of course, involve many generalities.

Adequate Hydration

One of the measures that we can undertake is to obtain adequate hydration before stress, because an insult to the kidney is more apt to result in acute renal failure in a dehydrated patient with a low urine output.

Second, if acute renal failure does develop, let us not permit these patients to get any worse than necessary before instituting corrective measures such as dialysis. Dr. Derbyshire has mentioned the fact that the worse these patients become the more likely they are to die, in spite of a completely normal battery of chemistries. More and more thought is being given to the concept of prophylactic dialysis in patients who are in renal shut down.

Third, dialysis is an adjunct and not a substitute for more conservative therapy.

I would like to mention briefly a case of a 48 year old man who was hospitalized following an accident in which he was pinned under a truck. He had multiple abrasions and fractures. Initially, his NPN was 183 mg. per cent, bicarbonate 15 mEq/L and potassium 8.2 mEq/L. The man was

stuporous. He was hurriedly placed on the artificial kidney, and after 50 minutes the potassium level was reduced to 5.1 mEq/L. The electrocardiogram taken at the time of the potassium level demonstrated rather marked changes indicative of hyperkalemia, and we felt that it was urgent that the situation be remedied immediately. Within 50 minutes, there was a marked improvement in the electrocardiogram. I do not have the data on the amount of potassium removed at this time, but one could guess probably 75 or 100 mEq.

This patient made an uneventful recovery, but I believe that if it had not been for the emergency therapy to remove potassium he might have died.

It has been noted that the artificial kidney is a more difficult procedure and requires closer supervision by more personnel than peritoneal dialysis. It is also more expensive. Hemodialysis, however, is faster, and I wonder if, in some cases, this might be vital.

Cation Exchange Resins: Dr. Wilfred Friedman

Cation exchange resins are therapeutic agents which may be used to control hyperkalemia associated with acute renal insufficiency. These agents are not intended to replace artificial dialysis, but their use early in the clinical course may reduce the necessity for dialysis, or prolong the intervals between dialyses.

These are most innocuous agents having none of the drawbacks of dialysis, e.g. 1) trained team—expensive equipment; 2) large amounts of blood to prime equipment, and surgical procedures; 3) rapid electrolyte changes may be hard on an ill patient.

Early trials with resins were complicated with fecal impaction. This is no longer a problem with finely ground resins. Resins remove potassium at a much slower rate than dialysis and in the case that Dr. Dillingham just presented certainly would not have been fast enough.

Cation exchange resins are non-irritating, insoluble, inert compounds. They are administered orally or rectally and remain wholly in the G.I. tract. A resin is made of two components, a base and an active attached group. The base is a synthetic long chain, cross linked polymer of large molecular weight. This is inert and variations in basic structure alter exchange capacity. The attached groups are bound at multiple sites.

They are either strongly ionized acid (sulfonic, $-\text{SO}_3\text{H}$) or weakly ionized acid (carboxylic, $-\text{COOH}$). The strong acids are active at a pH above 3, the weak above pH 5. The binding capacity increases as the pH rises. The effect of a resin is directly proportional to the concentration of the ion in the solution and inversely proportional to its concentration on the resin.

Resins are capable of disassociating as acids or alkalies when suspended in solutions of appropriate pH. When placed in an alkaline solution H ions are replaced by other positive charged ions such as Na or K. Thus the resins remove ions from solution. This reaction occurs when the acid form of a cation exchanger is introduced into the alkaline intestinal fluids of a patient. As long as the pH remains alkaline the cation remains bound to the resin and is evacuated with feces.

Affinity for Cations

Affinity for cations vary, in order of decreasing magnitude: Ca, Mg, K, Na, NH_4 . These resins remove large amounts of Na as well as K.

In carboxylic resins H ions replace all other cations in exchange position in solutions of pH below 7. The upper G.I. tract is more acid and the lower more alkaline. This permits free absorption of essential cations in the upper intestinal tract.

With the use of resins in acute renal failure the serum K can be effectively held to normal; or brought down. This loss of base may precipitate acidosis. This can be controlled with sodium bicarbonate or lactate.

If vomiting is a problem the resin can be given by enema. The oral route is however preferred. The daily oral dose is 40-50 grams. This can be given in divided doses in glucose and water. A 10 per cent tap water solution is used in enemas, usually B.I.D. The enemas are retained as long as possible. Cleansing enemas are given every 24 hours.

Patients accumulate K at variable rates. This depends on 1) their previous state of K metabolism; 2) extra renal losses; 3) excessive gains—tissue or cellular breakdown. It is wise to start therapy as soon as the diagnosis is made. At present the use of cation exchange resin early in the clinical course can reduce the necessity for dialysis or prolong the intervals between dialysis.

Dr. Ellis:

Dr. Bergere Kenney has consented to discuss the measures one may take in treating acute renal failure, particularly when the previously discussed means of therapy are not available. Dr. Kenney.

Medical Management: Dr. Bergere Kenney

I would not agree with the thesis that one resorts to medical management only when the previously described means of treatment are not available. A number of cases of acute renal failure do not require dialysis. This particularly applies to the nephrotoxic group, in which the only disease is the presence of some abnormal physiology within the kidney.

This would include patients with placenta previa, acute hemorrhages in otherwise healthy persons, some poisonings, and blood transfusion reactions.

Highest Mortality Rates

The highest mortality rates in this syndrome are in those cases associated with other diseases, for example, in surgery of the aorta, and operations for carcinoma of the prostate. In these latter situations, very frequently the necessity of resorting to supplementary therapy becomes apparent; but in many cases you are on fairly safe ground sitting tight for a while, in order to observe developments.

In the course of evaluating a patient for surgery, there are certain precautions one must take. We certainly would avoid unnecessary surgery on someone who has hemophilia or thrombocytopenic purpura.

Polycythemia Vera

Polycythemia vera and other conditions in which there is a thrombocythemia are characterized by increased thrombosis, and they are also characterized by an increased tendency to hemorrhage. I think it is an interesting speculation that the patient in question tonight had a high red count, cell volume, hemoglobin and white count. There is no mention made of platelets in this particular patient, but it is quite possible that this patient was polycythemic and bled excessively, developing a large hematoma from minor trauma; and this could be the mechanism precipitating his acute renal failure.

There are several situations in which abnormal coagulation occurs in the process of treatment or

surgery. In afibrinogenemia, the fibrinogen is often reduced through a process of increased fibrinolysis, and not necessarily by the congenital absence of fibrinogen. One example is carcinoma of the prostate, another abruptio placenta, another bacteremia. A factor to remember is the bleeding tendency which may occur in uremia. The individual who is developing uremia has a tendency to bleed, and may have further hemorrhage complicating his already abnormal situation.

Transfusions

I would like to say one word about transfusions. The principal indication for transfusion in surgical patients is massive hemorrhage. One unit of blood is inadequate for this purpose. The patient who has bled massively needs multiple transfusions, and in treating only the shock of surgery or of trauma, and not that of hemorrhage, one can use other means. Using one unit of blood to maintain a patient's blood pressure during a surgical procedure is hazardous, regardless of the excellence or lack of excellence of the laboratory.

Dr. Dillingham pointed out that there are many ways that we can kill these people. This is true. First of all, we can drown them.

They may develop pulmonary edema on the basis of an excessive amount of extracellular fluid. An intrinsic method of accumulating this extracellular fluid is through the marked increase in protein and fat breakdown which occurs in very ill people. A by-product of this catabolic activity is the production of water. An intrinsic flooding of tissue with water of tissue breakdown may be a major factor in the over hydration of these patients.

One will frequently see surgical patients with acute renal failure, with the order "push fluids" on the chart. This is apparently done because the patient appears to have oliguria because of dehydration, and the attempt is made to hydrate the patient, when already he may be a liter or two ahead of his output.

Amount of Fluid Given

The amount of fluid given to a patient with this syndrome must be considered very carefully. Most authorities will quote 400 to 500 cc's a day, in addition to the output through vomiting, gastric suction drainage or wherever it might be. We

should not exceed this 400 to 500 cc of fluid intake per day. One of the principle duties of the attending physician in such a case is to carefully explain to the family the necessity of limiting fluids. Because the patient's mouth is dry, he's uncomfortable and complaining a great deal, and the instinct of the family and nurse is to give him water or ice chips. This intake may well exceed the limits of proper therapy.

Some symptomatic relief can be obtained by giving these patients sweets, such as rock candy, which increases salivation and another thing that can be given is small amounts of pilocarpine to stimulate salivation.

Potassium has been the principal villain in this syndrome. Potassium is produced in the breakdown of protein and fat, and by the hemolysis of red cells. Another source of potassium is that from any non-viable tissue.

This raises the question in a very sick patient as to whether he should be taken to surgery in order to debride an extensive wound in which there is a great deal of necrosis. Usually this should be done, but there is certainly a risk involved. There is also a tremendous risk in not removing this non-viable tissue because of its reservoir of potassium.

Orange juice certainly should not be given to these patients.

Electrocardiogram

The electrocardiogram may give a very nice pattern of excess potassium, but if you're concerned with potassium it should be measured by chemical means, or a flame photometer, as the electrocardiogram is not a sensitive enough instrument. There are certain electrocardiographic patterns of gross myocardial abnormalities to which a potassium deficiency contributes. If a grossly abnormal ventricular pattern is present, we know that there is an electrolyte imbalance; but don't blame it strictly on potassium and don't use the electrocardiogram for that purpose alone.

Dr. Friedman has mentioned cation exchange resins, again in the way of prevention.

If there is infection present it should be treated, but if an infection is not present prophylactic antibiotics are not indicated. In past years it has been considered negligent not to give everybody undergoing surgery, or a serious illness, an antibiotic prophylactically. I think the present consensus is

that one should treat specific infections with antibiotics, and not use them prophylactically.

When a patient has gone through acute renal failure and suddenly starts diuresis, this is no time for optimism.

This patient may die by depleting his potassium during the diuretic stage. Observation of the serum potassium is as important during the stage of diuresis as during the stage of oliguria. The individual in this stage may very well go into a ventricular arrhythmia, which can prove suddenly fatal.

There is a great deal in this syndrome which makes it somewhat a disease of human error; someone driving too fast, someone giving the wrong type of blood, someone excessively dehydrated during a postoperative stage. It's a situation in which too much orange juice or too much ice may contribute to and compound the human error. The avoidance of these errors is our best chance of treating this condition without resorting to the more complex measures discussed earlier.

Seminar Summary: Dr. Cecil Dillingham

We have attempted tonight to cover the problem of acute renal failure. Its background and history were covered by Dr. Berchtold, a representative case presented by Dr. Seitz with a discussion of this case, and the revived interest in peritoneal dialysis was presented by Dr. Derbyshire. We have also heard of errors in the treatment of renal shutdown, and Dr. Friedman has discussed the use of the newer exchange resins. Finally, we have heard the discussion of the more conservative medical management of acute renal failure by Dr. Kenney.

I am inexperienced in the use of exchange resins, but would like to mention that in acute renal failure, one ion such as potassium may not be the sole offender, and for this reason, dialysis may be more complete therapy. For example, we have recently dialyzed two patients with chronic nephritis who were uremic and doing poorly. Without any marked change in their potassium or bicarbonate we did observe remarkable clinical improvement; and in one instance, the patient was able to leave the hospital 48 hours after dialysis, whereas previous conservative therapy for three weeks had not seemed to be of any great benefit. The other patient was comatose and the chemistries were fairly well balanced. Hemodialy-

sis did result in her recovering to the point that she was able to leave the hospital in a very few days. Unfortunately, the previous uremic state recurred in one month.

Peritoneal Dialysis

Peritoneal dialysis had fallen into disrepute, but with the newer methods as shown by Dr. Derbyshire in the case presented tonight and the reports in the recent literature which are quite impressive, it appears that peritoneal dialysis should certainly be considered in suitable cases of renal shutdown.

It has been mentioned in the literature that the Kolff Artificial Kidney will not remove water. It seems to me that this is contrary to the experience of many observers, and we have observed a weight loss of eight pounds during a six-hour dialysis. I am certain that most of this represented water removed by the instrument. It is my impression that larger quantities of water have been reported removed with peritoneal dialysis, though requiring a much longer time.

Regarding the onset of diuresis, I would like the pathologist's opinion of any anatomical changes which might coincide and possibly help explain the diuretic phase.

Discussion: Dr. Ellis

In answer to your question, Dr. Dillingham, there does appear to be an anatomical explanation for the recovery of these patients. The basic pathology here is that segmental necrosis of the lining cells of renal tubules and several days are required for the regeneration of these cells. Unfortunately, one does have an occasion to study such kidneys and see the regeneration of renal tubular epithelium. I've often wondered what is going on in the kidneys of patients anuric or oliguric for two or three days with recovery at this time.

Dr. Richard Angle

If there is a tendency displayed for serum potassium to increase in the presence of a mild oliguria then I think the exchange resins are indicated and if it rises beyond a mild increase I think it's time to consider peritoneal lavage or the use of an artificial kidney. These patients present a complicated exercise in therapeutics and it would be nice if all such patients could have an accurate intake and output record. This is your best means of determining impending disaster.

I've had the opportunity to use exchange resins for only one patient. At about the same time, the patient's oliguria cleared and in this case the resin was probably not necessary. I started the patient on exchange resins because there was a moderate degree of renal failure and the potassium was beginning to rise. I had hoped to avoid dialysis by the use of the resin. I don't know whether it did or not.

Dr. Dillingham

I think that this thought is well taken, and the literature indicates that the use of some of the newer resins may at times lessen the need for more complex procedures. Perhaps we all have difficulty in determining which patients with oliguria are developing acute renal failure. Dr. Merrill has written that measurement of the urine sodium and urea may be helpful, in that a high urine sodium and low urea output suggest that the patient is beginning in acute renal failure. On the other hand, he points out that this is not infallible because glomerulonephritis and other chronic renal disease can produce a similar picture. We have seen this in a young patient whom we assumed to have acute tubular necrosis, and who survived after three dialyses. Later on, however, she was found to have chronic nephritis.

In the dilemma of postoperative oliguria, the "water load" with five per cent glucose in water may assist in the diagnosis; but if the patient is in acute renal failure, the test itself will increase the danger of over-hydration.

Dr. Ellis

I would like to thank our speakers this evening for their excellent presentations. Our next seminar will be about Alcoholism.

Bibliography (Dr. Derbyshire)

1. Ganter, G.: Quoted by Maxwell et al.
2. Frank, Howard S.; Seligman, Arnold M.; Fine, Jacob: Further Experiences with Peritoneal Irrigation for Acute Renal Failure. *Ann. Surg.* 128:561-608, Sept. 1948.
3. Maxwell, Morton D.; Rockney, Robert E.; Kleeman, Charles R.; Twiss, Mary R., Peritoneal Dialysis. *J. A. M. A.* 170:917-924. June 20, 1959.
4. An evaluation of Intermittent Peritoneal Lavage. *Am. J. Med.* 26:831-844. June 1959.
5. Franklin, Stanley S.; Merrill, John P., Acute Renal Failure II. *New England J. Med.* 262:15. April 19, 1960.
6. Segar, William E. Peritoneal Dialysis in the Treatment of Boric Acid Poisoning. *N. Eng. J. of Med.* 262:789-800. April 21, 1960.

Experimental Fetal Bone Grafts

P. M. OVERTON, M.D.

*Resident, Orthopedic Surgery
Parkland Memorial Hospital
Dallas*

C. F. GREGORY, M.D.

*Professor of Orthopedic Surgery
Chairman, Orthopedic Division
University of Texas
Southwestern Medical School
Dallas*

For almost a century the grafting of bone has been known to be clinically effective. Through the years there has been an ever widening application of bone grafts in orthopedic procedures; in the present era they are being used in the treatment of new and old fractures, and for filling or bridging bony defects. Yet the method of utilization of such grafts by the host and their own ultimate fate have been poorly understood until the last decade. Many details still remain elusive.

The grafts which have been used fall into three categories. Autogenous bone grafts are those transplanted within the same individual. Homologous grafts are those in which the bone is donated by another member of the same species. Heterogenous grafts are those in which the donor and recipient are of different species.

Acceptance

It has gradually become apparent that autogenous bone grafts are better accepted by the host than any other type of graft. Autografts are associated with certain problems, however: the prolonged operating time necessary to secure the graft, and the resultant additional trauma and risk to the patient.

In certain cases there is an inability to obtain a sufficient volume of autograft because of age or general condition of the patient. These inherent disadvantages in obtaining autografts, superimposed on the lack of knowledge as to the fate of grafts, have led to the use of many substitutes, ranging from heterogenous bone to ivory.

The majority of reports on such alterations has been confined to the use of homologous and heterogenous bone prepared and preserved in various manners. Most authors have claimed clinical and x-ray acceptance of this alternate graft material but offer no reliable information concerning cell survival in the graft or origin of new bone formation.

While most investigators have felt that homologous grafts are eventually incorporated just as completely as autogenous grafts, a recent report found twice the failure rate with homologous bone when compared with autogenous bone (8). This would suggest that there is some significant difference between the two types of graft material.

Rejection

The rejection of homologous skin grafts is well known to all of us. More recently the failure of a certain percentage of corneal homografts has been observed. Yet because of the clinical success with homologous bone grafts, it has been a relatively few years that the role of tissue immunity has been considered in connection.

The establishment of a definite immune reaction in relation to homografts of bone has been impaired in part by the difficulty in demonstrating serologically detectable antibodies. Considerable effort has been made, using direct and indirect

Aided by a grant from the Orthopedic Research and Education Foundation.

approaches, to isolate from bone the antigens responsible for reactions about homografts. The partial success which has been achieved would leave little doubt that such an immune response exists (4,5,6,12,14,18).

Because of the difficulty just noted in demonstrating the production of antibodies, the histologic response of the host tissue to bone grafts has been more widely used to evaluate the extent of the immune response. By this means it has been shown that most cells in fresh autogenous and fresh homologous bone grafts die although there may be survival of some cells in either.

No cells seemed to survive any method of preservation. Cell survival, however, is of questionable importance because even fresh grafts are apparently incapable of making a significant contribution of new bone tissue (9,32).

Host Response

It would follow, therefore, that the primary difference between autografts and homografts lies in the host response to the bone implanted. It has been shown that there is virtually no inflammatory response to autogenous bone grafts, with the possible exception of a fibroplastic response noted in some specimens when autogenous cortical shavings had been used (28).

On the other hand there is a definite localization of inflammatory cells about homografts. There is considerable variation in the degree of this reaction, presumably related to the degree of genetic incompatibility between donor and host.

This inflammatory response is more intense in boiled, autoclaved, and merthiolate preserved bone than with fresh or frozen bone. It becomes manifest between the first and second week, reaches a peak between the third and fourth weeks, then gradually subsides over a period of weeks or months (26,27).

In previously sensitized hosts homografts of bone produce a more rapid, intense and prolonged inflammatory reaction (6,9,13). These findings are comparable to those experienced with skin grafting and cell transplants, and suggest a latent period during graft vascularization and host antibody production followed by a state of acquired immunity (1,10,22).

Paralleling this histological inflammatory res-

ponse is a varying degree of graft rejection reflected by a delay in or failure of incorporation or replacement by the host (13,21,30).

Heterografts evoke an inflammatory response similar to that of homografts except that it appears earlier and is more intense, is initially characterized by acute inflammatory cells, is more prolonged, and usually leads to complete rejection or destruction of the graft.

Immune Response

That an immune response is incited by transplants of bone just as by any other tissue transplants should be of some clinical importance. While the final results obtained with homologous bone may be the same as with autogenous bone, autografts are always incorporated more efficiently during the early phases, and because there is no immune reaction they should give more consistently good results than could be expected with homografts. Unaltered heterografts are probably completely undesirable because of the intense immune response produced (3,26,32).

For either homografts or heterografts to give acceptable results with any predictability it would be necessary to alter either the antigenicity of the graft or the immune response of the host. Since the latter is clinically impractical, attempts have been made to modify foreign bone so as to remove its antigenic properties.

One of the first promising preparations, and to date the best proven substitute for autogenous bone, was freeze-dried homologous bone. Lyophilization apparently results in less denaturation of protein than does deep-freezing, with a corresponding decrease in the immune inflammatory response (9,19,31).

Another preparation which has been of considerable interest is "anorganic" bone, bone from which all organic matrix has been extracted. Even heterogenous bone prepared in this manner provoked no immune response; unfortunately there seems to be a paralleling lack of ability to induce new bone formation (2,11,20,24,30).

Fetal Tissues

Recently much attention has been given to the transplantation of fetal tissues; experimental work in this field has been encouraging. To certain stages of development fetal tissue specificity is of

such low order that heterogenous transplantation impedes growth and development only partially, with no evidence of an associated inflammatory reaction in the host bed (7,16,17,25,29).

While there has been experimental work on ectopic transplantation of fetal bone, no report to date was found on the use of fetal bone in grafting. The single exception to this was a case report in the Russian literature which stated there had been the same clinical success with fetal bone in this application as there had been with fetal skin grafts (23).

Experiment

Because of the apparent low antigenicity of fetal tissues and a potentially large source of fetal bone for clinical use, it was decided to attempt an experimental evaluation of fetal bone grafts.

The donor fetal bone was obtained from near-term rabbit fetuses under aseptic conditions and it was deep-frozen until implanted. Recipients were young adult male rabbits operated in randomly selected pairs. Diaphyseal defects were made in the third metacarpals of each forefoot in both animals.

In the first of each pair one metacarpal defect was left unfilled as a control and the other was replaced by a single piece of fetal bone. In the second animal one defect was filled with fresh autogenous graft and the other with fresh homologous graft. Thirty-two partners survived to the times of serial sacrifice at 5, 10, 20, 30, 45, 60 and 90 days.

After sacrifice the metacarpals were excised and decalcified in Versene, sectioned at six to eight microns, and stained with hematoxylin and eosin for microscopic study.

In ungrafted defects progressive stages in an attempted repair process were observed, with no associated inflammatory reaction. A comparison of the fetal, autogenous and homologous grafts at the various sacrifice intervals follows.

Five days: At this early time there was invasion of the nonviable fetal bone graft by mesenchymal buds and capillaries, and a bond of immature cartilage between the graft and host. Early ingrowth of mesenchymal tissue into the autogenous graft was noted. About the ends of the homologous

grafts were areas of necrosis containing large numbers of polys and lymphocytes; there was no evidence of invasion of the graft.

Ten days: There had been marked progression in the invasion of the fetal graft, which was now bonded to the host by mature cartilage and new enchondral bone. Autogenous grafts had been further invaded and were bonded to the host by cartilage. There was no evidence of invasion of the homologous graft, and the inflammatory changes at the graft ends persisted.

Twenty days: Invasion of the fetal graft by host tissues had progressed, with considerable replacement of the graft. Autogenous grafts had been further invaded and were now bonded to the host by mature cartilage and bone. A pronounced lymphocytic and eosinophilic infiltration was present at the ends of the homologous grafts; there was still no evidence of invasion of the graft by host tissues.

Thirty days: The fetal graft had been completely replaced with no evidence of an associated inflammatory response. There was a mature bone bond between the host and autogenous graft, with further invasion of the graft. There was beginning invasion of the homologous graft by host tissues.

Forty-five days: While there was no evidence of residual graft material the marrow in animals which had received fetal grafts showed a pronounced increase in cellularity, the predominant cell being young eosinophilic myelocytes. The autogenous graft was still easily detectable but had been further invaded and replaced; there was a slight increase in the host marrow cellularity.

The homologous graft had been further invaded and was bonded to the host by mature bone; a rather marked increase in the host marrow cellularity was due primarily to lymphocytes, but a large number of eosinophiles were also present.

Sixty days: In the hosts having received fetal grafts there was still an increase in the marrow cellularity, primarily an increase in young eosinophiles. The autogenous graft had been almost completely replaced; there was still a very mild increase in the marrow cellularity of the host, mostly attributable to young eosinophiles.

At this stage the homologous graft had also been almost entirely replaced; the persistent in-

creased cellularity of the host marrow was due to mature eosinophiles primarily.

Ninety days: The increased marrow cellularity in recipients of fetal grafts had subsided somewhat, with maturation of the eosinophiles responsible. There was no detectable remnant of autogenous graft, and the host marrow again had a normal appearance. Fragments of homologous bone were still detectable; the host marrow still showed an increased cellularity, due primarily to lymphocytes.

In the course of this investigation several interesting observations were made:

1. None of the grafts appeared to contribute new bone tissue.
2. There was a definite histological inflammatory response to homologous bone grafts, becoming apparent as early as five days, reaching a peak at twenty to thirty days, and persisting throughout the observation period.
3. While homografts were initially invaded and replaced much slower than autografts, at the end of ninety days the only remarkable difference between the two was a moderate residual lymphocytosis in the marrow of the recipients of homologous grafts.
4. At forty-five and sixty days an unexplained mild eosinophilia was noted in the marrow of hosts having received autogenous bone grafts.
5. Fetal bone grafts were invaded and replaced much more rapidly than autogenous grafts.
6. There was a late eosinophilic response on the part of the host to fetal bone, becoming manifest after complete replacement of the graft.

In conclusion, it would seem that frozen fetal bone grafts in rabbits are well accepted, being more rapidly incorporated by the host than either fresh autogenous or fresh homologous bone.

Fetal bone does not appear to produce the immune inflammatory response commonly seen in association with homologous bone grafts. The late eosinophilic response incited by fetal bone is probably of significance immunologically, but the nature of this is not known.

Bibliography

1. Allgower, M., T. G. Blocker and B. W. D. Engley. Some Immunological Aspects of Auto and Homo-grafts in Rabbits, Tested by In Vivo and In Vitro Techniques. *Plastic and Reconstructive Surgery* 9:1, January 1952, 1-21.
2. Anderson, Kirk J., Joan Schmidt and D. Kay Clawson. Plastic and Reconstructive Surgery (*Transplantation Bulletin*) 24:1, July 1959, 97-105.
3. Bassett, C. Andrew L., and A. Gibson Packard, Jr. A Clinical Assay of Cathode Ray Sterilized Cadaver Bone Grafts. *Acta Orthopaedica Scandinavica* 28:3, 1959, 198-209.
4. Billingham, R. E., L. Brent and P. B. Medawar. The Antigenic Stimulus in Transplantation Immunity. *Nature* 178, 1956, 514.
5. Billingham, R. E., L. Brent and P. B. Medawar. Plastic and Reconstructive Surgery 22:4, October 1958, 337-341.
6. Bonfiglio, M., W. S. Jeter and C. L. Smith. The Immune Concept: Its Relation to Bone Transplantation. *Annals New York Academy of Science* 59:3, January 1955, 417-433.
7. Cannon, Jack A., The Question of Host Adaptation Versus Graft Adaptation in Successful Homografts. *Transplantation Bulletin* 4:1, January 1957, 22-24.
8. Carnesale, Peter L., and Jack D. Spankus. A Clinical Comparative Study of Autogenous and Homogenous Bone Grafts. *J.B.J.S.* 41A:5, July 1959, 887-894.
9. Chalmers, John. Transplantation Immunity in Bone Homografting. *J.B.J.S.* 41B:1, February 1959, 160-179.
10. Chutna, Jitka. A Cytological Study of Immune Reactions in Mice to Homografts and Heterografts of Epidermal Cells. *Transplantation Bulletin* 4:4, October 1957, 136-138.
11. Costich, Emmett R., James K. Avery and James R. Hayward. Heterogenous "Anorganic" Bone Grafts in Humans. *Transplantation Bulletin* 4:4, October 1957, 130.
12. Curtiss, Paul H., and Charles H. Herndon. Immunologic Factors in Homogenous Bone Transplantation. *Annals New York Academy of Sciences* 59:3, January 1955, 434-442.
13. Enneking, William F., Histological Investigation of Bone Transplants in Immunologically Prepared Animals. *J.B.J.S.* 39A:3, June 1957, 597-615.
14. Enneking, William F., and Avrum Gratch. The Effect of Total Body Irradiation on Bone Transplants in Parabiosed Animals. *J.B.J.S.* 41A:3, April 1959, 463-475.
15. Felts, William J. A Comparison of Subcutaneous Implants of Isologous and Homologous Immature Whole Mouse Bones. *Transplantation Bulletin* 4:4, October 1957, 131-135.
16. Gordon, Stuart D. and Rupert F. Warren. Homogenous Fetal Cartilage Grafts to Bone. *Annals of Surgery* 127:1, January 1948, 90-97.
17. Greene, Harry S. H. Compatibility and Non-Compatibility. *Annals New York Academy of Sciences* 59:3, January 1955, 311-317.
18. Kahn, Reuben L. Tissue Response in Immunity. *Annals New York Academy of Sciences* 59:3, January 1955, 281-303.
19. Kreuz, F. P., G. W. Hyatt, Thomas C. Turner and Andrew L. Bassett. The Preservation and Clinical Use of Freeze Dried Bone. *J.B.J.S.* 33A:4, October 1951, 863-872.
20. Losce, F. L. and L. A. Hurley. Successful Cross Species Bone Grafting Accomplished by Removal of the Donor Matrix. *Naval Medical Research Bulletin* 14, 1956, 911-948.
21. Maatz, R., W. Lentz and R. Graf. Spongiosa Test of Bone Grafts for Transplantation. *J.B.J.S.* 36A:4, July 1954, 721-731.
22. Maumenee, A. Edward. The Immune Concept: Its Relation to Corneal Hemotransplantation. *Annals New York Academy of Sciences* 59:3, January 1955, 453-461.
23. Okulova, A. H. Transplantation of preserved human embryonic bone tissue. *Khirurgiia, Moskva* No. 4, April 1955, 63-66.
24. Ray, Robert D. and Jon A. Holloway. Bone Implants: Preliminary Report on an Experimental Study. *J.B.J.S.* 39A:5, October 1957, 1119-1128.
25. Ray, Robert D., James Degge, Park Glynd and Garth Mooney. Bone Regeneration: An Experimental Study of Bone-Grafting Materials. *J.B.J.S.* 34A, July 1952, 638-647.
26. Reynolds, Fred C. and David R. Oliver. Experimental Evaluation of Homogenous Bone Grafts. *J.B.J.S.* 32A:2, April 1950, 283-297.
27. Reynolds, Fred C., David R. Oliver and Robert Ramsey. Clinical Evaluation of the Merthiolate Bone Bank and Homogenous Bone Grafts. *J.B.J.S.* 33A:4 October 1951, 873-883.
28. Siffert, Robert S. Experimental Bone Transplants. *J.B.J.S.* 37A:4, July 1955, 742-758.
29. Silveti, A. N., Cornelia Cotton, Robert Byrne, J. H. Berrian and F. Menendez. Preliminary Experimental Studies of Bovine Embryo Skin Grafts. *Trans. Bull.* 4:1, January 1957, 25.
30. Stringa, Gabriele. Studies on the Vascularization of Bone Grafts. *J.B.J.S.* 39B:2, May 1957, 395-420.
31. Turner, T. C. and C. A. L. Bassett. An Experimental Comparison of Freeze Dried and Frozen Cortical Bone-Graft Healing. *J.B.J.S.* 37A:6, December 1955, 1197-1205.
32. Urist, Marshall R., Norman S. Max Donald and Jenifer Jowsey. The Function of the Donor Tissue in Experimental Operations with Radioactive Bone Grafts. *Annals of Surgery* 147:2, February 1958, 129-145.
33. Weinberg, Haim and Myer Makin. A and B Antigens in Human Bone Tissue. *J.B.J.S.* 41B:1, February 1959, 151-153.
34. Williams, J. B., and J. W. Irvine, Jr. Preparation of the Inorganic Matrix of Bone. *Science* 119:3100, May 1954, 771-772.

The Premenstrual Syndrome

Analysis and Treatment

SAMUEL D. SOULE, M.D.,* *St. Louis*

Premenstrual tension is a symptom which has become a clinical entity by definition and usage. Complex in symptoms, diverse in etiology, varied in physiology and grossly multiple in recommended therapy, this condition taxes the ingenuity of the physician both from the point of view of trying to understand the background of the syndrome and being able to treat it intelligently.

This symptom complex usually occurs at about the time of ovulation and is progressive increasingly to the onset of the next menstrual period.

Frank¹ first described this symptom complex and called it "Premenstrual Tension." Greenhill and Freed² differentiated premenstrual distress from premenstrual tension by the degree of severity of symptoms.

Perhaps it might be better to relegate the term "Premenstrual Tension" to being a symptom again and substitute "Premenstrual Syndrome" or some more generally descriptive term as a more accurate description of the condition.

Many women, in the full range of menstruation from teen age to menopause, have varied elements of this syndrome at some time during their menstrual life. The variations in frequency of various symptoms are related to the source of data.

Some reported series are women who come for treatment, other series are women who are interrogated as normals—nurses, college students, industrial employees, etc.³ Thus, although various

series report 30 to 95 per cent of women as relating symptoms, possibly only 10 per cent require or request treatment.

Symptoms

The symptoms of the premenstrual syndrome often cause a distressing impairment of the sufferer's psychic and physical well being⁴. They occur more frequently and with greater intensity in emotionally unstable women.

Numerous attempts have been made to group the symptoms into classifications: Organic versus functional; physical, allergic and hormonal⁵; a similarity of symptoms and signs of premenstrual tension and toxemia of pregnancy suggesting a common etiology⁶. A relationship of premenstrual tension symptoms to health, society and economics was considered in one of the first authoritative discussions of premenstrual distress². These various modalities have been suggested as a means of studying this syndrome.

The classification which defines the syndrome best to the author is one which groups all nervous and mental symptoms together, symptoms related to electrolyte and water retention make up a second group and endocrinologic factors account for a third group.

There is considerable overlapping and some findings are difficult to fit into any category. Nervous and mental symptoms include depression, crying spells, anxiety, irritability, insomnia, cravings, headache, nausea, melancholy and emotional instability. The symptoms and findings associated with fluid retention include bloating, edema, mastalgia, pain in thighs or legs associated with ed-

*From the Department of Obstetrics and Gynecology, Washington University, School of Medicine and the Department of Obstetrics and Gynecology, Jewish Hospital, St. Louis, Mo. Presented at St. Francis Hospital, Carlsbad, New Mexico, February 29, 1960.

ena, tightness of skin, abdominal pain and weight gain.

Endocrinologic symptoms and findings encompass altered capillary permeability, lowered pregnanediol levels, lack of rise in basal body temperature, dysmenorrhea, evidence of inadequate gestational change by vaginal cytology and irregular proliferative or mixed endometrium rather than secretory phase endometrial biopsy. Certainly this list is incomplete and in any one given series or in any given patient any or all of these symptoms may or may not be present with varying frequency.

Currently, the characteristic symptoms of the premenstrual syndrome are presumed to be the result of sodium and water retention secondary to physiologic alteration in steroid metabolism. It is theoretic that the deficient amount of progesterone in the last half of the menstrual cycle with the resultant over dominance of estrogen might produce the salt and water retention in these women. Progesterone has been shown to have a quieting effect on the myometrium and when given intravenously has a narcotizing effect.

Therapy

Many women experience this discomfort during the premenstrual phase but relatively few require treatment. The socio-economic and nervous tension background of a given element of society will determine who requests or requires treatment. Obviously, education and hygiene are significant areas of discussion to all women from puberty to menopause.

Any one line of treatment by itself has generally proved wanting. Psycho-therapy, water restriction, diuretics or hormone therapy as unilateral treatments are usually inadequate. The psychiatric correlation in treatment is a factor which exists as a constant overlay in whatsoever line of organic procedure is contemplated. Whether this functional phase of the symptom complex is treated by a dynamic psychiatric approach or whether the tranquillizing drugs, antihistamines or barbiturates are employed, this element of the syndrome is a constantly harrassing factor. Ataraxic drugs, the muscle relaxants of the meprobamate series may be used as an adjunct to psychotherapy.

Dehydration is a time honored method of therapy. Theophylline compounds with antihistamines

are suggested as being preferable to ammonium chloride which often is poorly tolerated or salt restriction alone which is often ineffective^{7,8}. Chlorothiazides are effective diuretic and saluretic drugs which relieve the water retention elements of this syndrome⁹.

Hormone Imbalance

The third factor concerned with treatment is to attempt to correct the hormone imbalance. Decreased corpus luteum function results in lowered progesterone levels as demonstrated by low pregnanediol levels. Progesterone appears to have an advantage over the natruretic and kaluretic agents such as the mercurial diuretics and chlorothiazide¹⁰. Oral pregnanediol¹¹ has been employed successfully.

The premenstrual syndrome is a symptom complex which has three major elements. Sodium and water retention noted as edema, bloating, etc. and hormone imbalance characterized primarily by lowered corpus luteum function as evidenced by decreased progesterone levels are interrelated. At present understanding, the lowered corpus luteum function seems to be the more major etiologic element although signs of water retention are frequently the most annoying. Overlying the water retention and hormone imbalance is the constant factor of psychiatric correlation. How much of these tensions, irritabilities, etc. are related to water retention and how great a factor primary functional imbalance may be is difficult to assess.

The literature abounds with evidence that any one phase of treatment is usually inadequate. To be theoretically successful treatment must correlate hormone imbalance, water retention and functional psychiatric factors.

Patients treated with medroxy progesterone acetate alone although improved, did not respond satisfactorily enough to be considered excellent results. Patients treated with chlorothiazide⁹ are often relieved of water retention to a great degree but the final result is not all that is desired. Progesterone in itself being moderately natruretic becomes an adjunct to diuretic therapy.

The psychiatric correlative factor is generally treated organically with minimal dosage of barbiturates or, more recently, tranquillizing drugs. Thus it seems logical to treat this tri-partrate syndrome with a combination of drugs suitably selected to alleviate the symptom complex.

Medroxyprogesterone acetate has been described previously as a potent oral progesterone-like compound which is many times as active as any of the other oral progesterone-like compounds available. It is the least estrogenic and the least androgenic of currently available progestins.

A drug combination, each tablet of which contains medroxyprogesterone acetate (Provera®) 2.5 mg., ethoxzalamide (Cardase®) 35 mg., and ectylurea (Levanil®) 300 mg. has been prepared (Cytran®)*. This combination has theoretic value because to the progestin has been added a diuretic to correct the salt and water retention and a drug to give a tranquillizing effect.

To date we have treated twenty premenstrual syndrome patients with medroxyprogesterone acetate alone, prescribing 10 mg. daily for two weeks premenstrually. Eight of twenty patients experienced complete relief of symptoms.

A second group of 50 patients varying in age from 18 to 53 years were treated with Cytran®. One tablet, and occasionally two, was prescribed daily from midmenstrual time to the onset of the next period. Forty of the fifty patients responded favorably. Ten patients experienced no relief.

Eighty-three per cent of the nervous and mental group were improved or completely relieved of symptoms; seventy-seven per cent of those whose etiology lay with water and electrolyte retention were aided and eighty-three per cent of the endocrine problems were satisfied with the results of taking the medication.

Summary

The premenstrual syndrome has been defined. Its characteristic symptomatology has been reviewed and elements of the physiology of this troublesome complex are reviewed. In our estimation the three major etiologic elements are: a hormone imbalance; salt and water retention and a constant nervous system overlay. Progesterone also being natruretic, its deficiency may be a factor in the water retention.

Therapy of the premenstrual syndrome is directed toward correction of the hormone imbalance, calming the nervous system symptoms and administering diuretics in an effort to relieve the water retention. In our experience a progesterone-

like compound, medroxyprogesterone acetate (Provera®) aided forty per cent of these patients when given during the second half of the cycle. When the combination of progestin, diuretic and tranquillizer was administered during the same phase of the cycle, eighty per cent of the women responded favorably.

Conclusion

1. The premenstrual Syndrome is defined.
2. Hormone imbalance, salt and water retention and psychiatric correlation are selected as the primary physiologic factors in the etiology of this entity.
3. A combination of progestin, diuretic and tranquillizer is discussed.
4. The results of administering this preparation during the second half of the menstrual cycle are described.
5. This preparation (Cytran®) has proved a valuable adjunct to the treatment of the premenstrual syndrome.

100 North Euclid Ave.

Bibliography

1. Frank, R. T., "Hormonal Causes of Premenstrual Tension," ARCHIVES OF NEUROLOGY AND PSYCHIATRY, 26:1053-1057, November 1931.
2. Greenhill, J. P. and Freed, S. C., "The Electrolyte Therapy of Premenstrual Distress," AMERICAN MEDICAL ASSOCIATION JOURNAL, 117:504-505, July-September, 1941.
3. Perr, I. N., "Medical, Psychiatric and Legal Aspects of Premenstrual Tension," AMERICAN JOURNAL OF PSYCHIATRY, 115:211-219, September 1958.
4. Morton, J. H., "Premenstrual Tension," AMERICAN JOURNAL OF OBSTETRICS AND GYNECOLOGY, 60:343-352, July-December 1950.
5. Davis, M. E., "Premenstrual Tension," MEDICAL CLINICS OF NORTH AMERICA, 42:257-262, January-June 1958.
6. Greene, R. and Dalton, K., "The Premenstrual Syndrome," BRITISH MEDICAL JOURNAL, 1:1007-1014, January-June, 1953.
7. McGavack, T. H., Spoor, H. J., Stone, J. L. and Pearson, S., "The Treatment of Premenstrual Tension with a Combination of an Antihistamine and a Theophylline Derivative," AMERICAN JOURNAL OF OBSTETRICS AND GYNECOLOGY, 72:416-422, July-December 1956.
8. James, W. F. B. and Johnson, A. P., "Toxemia of Pregnancy: A New Treatment of Controlling Edema," AMERICAN JOURNAL OF OBSTETRICS AND GYNECOLOGY, 74:1054-1058, July-December 1957.
9. Stevenson, L. B. and Hodgkinson, C. P., "Chlorothiazide Therapy in Obstetrics and Gynecology," AMERICAN JOURNAL OF OBSTETRICS AND GYNECOLOGY, 77:1286-1294, 1959.
10. Armstrong, J. G., "Hypotensive Action of Progesterone in Experimental and Human Hypertension," PROCEEDINGS OF THE SOCIETY OF EXPERIMENTAL MEDICINE AND BIOLOGY, 102:452-455, 1959.
11. Simmons, R. J., "Premenstrual Tension; Review of 288 Cases," OBSTETRICS AND GYNECOLOGY, 8:99-102, July 1956.

*CYTRAN supplied by Dr. Harold Upjohn, The Upjohn Company.



Southwestern Physicians' Directory



SAUL B. APPEL, M.D.

Certified by the American Board of Internal Medicine

CARDIOVASCULAR DISEASES

Suite 10E
KE 3-5201 EL PASO MEDICAL CENTER 1501 Arizona Ave.
El Paso, Texas

ARTESIA MEDICAL CENTER

Phone:

SH 6-2311

Henry L. Wall, M.D., Suite A
General Practice

SH 6-2531

Robert W. Harper, M.D., Suite B
Surgery and Gynecology

SH 6-2521

Owen C. Taylor, Jr., M.D., Suite C
General Practice

SH 6-3321

C. Pardue Bunch, M.D., Suite D
General Practice

SH 6-2441

Gerald A. Slusser, M. D., Suite E
Surgery

SH 6-4200

X-ray and Medical Laboratory
Fourth and Washington

Artesia, New Mexico

ANDREW M. BABEY, M. D.

Certified by the American Board of Internal Medicine

CARDIOVASCULAR DISEASES

250 West Court Avenue Jackson 4-4481 Las Cruces, N. M.

**FRANK O. BARRETT
ANESTHESIOLOGY ASSOCIATES**

J. A. Shugart, M.D.

(Diplomate American Board of Anesthesiology)

Jack Walker, M.D., J. W. Redelfs, M.D., Jack Ellis, M.D.

B. F. Fehlman, M. D., C. G. Race, M.D.

— ANESTHESIOLOGY —

1501 Arizona Ave.

El Paso Medical Center

KE 3-8431

El Paso, Texas

OTTO L. BENDHEIM, M. D.

DIPLOMATE AMERICAN BOARD OF PSYCHIATRY &
NEUROLOGY

5051 N. 34th Street CRestwood 7-7431 Phoenix, Arizona

RAYMOND J. BENNETT, M. D.

Diplomate of the American Board of Neurology and Psychiatry

PRACTICE LIMITED TO NEUROPSYCHIATRY

Suite 7A El Paso Medical Center 1501 Arizona Avenue
Phone KE 2-1177 El Paso, Texas

JACK A. BERNARD, M.D., F.A.C.P.

Diplomate American Board Internal Medicine

INTERNAL MEDICINE

CARDIOVASCULAR DISEASES

Suite 3C El Paso Medical Center 1501 Arizona Avenue
Phone KE 3-8151 El Paso, Texas

VICTOR M. BLANCO, M.D.

Diplomate of the American Board of Surgery

GENERAL AND CANCER SURGERY

205 University Towers Building

1900 N. Oregon St.

KE 3-5519

El Paso, Texas

CLEMENT C. BOEHLER, M. D., F.A.C.S.

H. W. DEMAREST, M.D., F.A.C.S.

Diplomates American Board Obstetrics and Gynecology

Suite 8-A

Medical Center

1501 Arizona Avenue

Phone KE 2-6591

El Paso, Texas

FREDERICK P. BORNSTEIN, M.D.

Certified by the American Board of Pathology
in Pathologic Anatomy and Forensic Pathology

102 University Towers Bldg.

1900 N. Oregon St.

KE 2-3901

El Paso, Texas

LOUIS W. BRECK, M.D.

W. COMPERE BASOM, M.D.

MORTON H. LEONARD, M.D.

MARIO PALAFOX, M.D.

ZIGMUND W. KOSICKI, M.D.

ADRIAN L. GRASS, M.D.

The El Paso Orthopaedic Surgery Group

1220 N. Stanton St.

Telephone KE 3-7465

El Paso, Texas

3500 Physicians Road

Southwestern Medicine

BASIL K. BYRNE, M.D., F.A.A.P.

IRVIN J. GOLDFARB, M.D., F.A.A.P.

Diplomates American Board of Pediatrics

PEDIATRICS

Suite 4A

El Paso Medical Center

1501 Arizona Avenue

KE 3-8437

El Paso, Texas

ROBERT J. CARDWELL, M.D.

(Diplomate American Board of Obstetrics and Gynecology)

608 University Towers Building

1900 N. Oregon St.

KE 3-7587

El Paso, Texas



Southwestern Physicians' Directory



ROBERT N. CAYLOR, M.D.

Practice Limited to Ophthalmology

508 University Towers Building

1900 N. Oregon St. KE 3-4909 El Paso, Texas

WILLIAM I. COLDWELL, M.D.

Certified by the American Board of Internal Medicine

INTERNAL MEDICINE

501 University Towers Building

1900 N. Oregon St. KE 2-2661 El Paso, Texas

BRANCH CRAIGE, M.D., F.A.C.P.

(Certified by American Board of Internal Medicine)

INTERNAL MEDICINE

Suite 58 El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-7121 El Paso, Texas

E. S. CROSSETT, M.D.

Diplomate American Board of Thoracic Surgery

GEORGE W. IWEN, M.D.
THORACIC SURGERY

Cardiovascular Surgery Broncho-Esophagology
Suite 11-D KE 3-8511 or KE 2-2474 1501 Arizona Ave.
El Paso Medical Center El Paso, Texas

WICKLIFFE R. CURTIS, M. D., F.A.C.S.

JAMES D. BOZZELL, M.D., F.A.C.S.

Diplomates American Board of Urology

PRACTICE LIMITED TO UROLOGY

Suite 38 El Paso Medical Center 1501 Arizona Avenue
Phone KE 3-1426 El Paso, Texas

RITA L. DON, M.D.

Allergy

102 University Towers Building

1900 N. Oregon St. KE 2-3901 El Paso, Texas

ANTONIO DOW, M.D., F.A.C.S.

(Diplomate of American Board of Surgery)

GENERAL SURGERY

205 University Towers Building

1900 N. Oregon St. KE 2-7305 El Paso, Texas

HAROLD D. DOW, M.D.
FREDERICK J. KOBERG, M.D.

General Practice — Surgery

Box 456
702 Hobbs Road Phone 3641 Seminole, Texas

3200 Physicians Read

Southwestern Medicine

JOHN A. EISENBEISS, M.D., F.A.C.S.

WILLIAM B. HELME, M.D.

Diplomates of the American Board of Neurological Surgery

NEUROSURGERY

926 E. McDowell Road AL 4-3151 Phoenix, Arizona

WARD EVANS, M.D., F.A.C.S.

(Diplomate American Board of Surgery)

SURGERY

608 University Towers Building

1900 N. Oregon St. KE 3-7587 El Paso, Texas

LESTER C. FEENER, M.D., F.A.C.P.

Diplomate American Board of Internal Medicine

INTERNAL MEDICINE

CARDIOVASCULAR DISEASES

404 Banner Bldg. KE 2-5771 El Paso, Texas

2021 N. Central Ave. AL 3-4131

DOUGLAS D. GAIN, M.D.

JOHN W. KENNEDY, M.D.

JAMES R. MATHESON, M.D.

FRANK TOLONE, M.D.

Diplomates of American Board of Radiology
X-RAY THERAPY and DIAGNOSIS
RADIUM THERAPY

Phoenix Arizona

ALBERT A. GEMOETS, M.D.

Member American Academy of General Practice

GENERAL PRACTICE

3726 1/2 Alameda Ave. KE 3-7689 El Paso, Texas

H. M. GIBSON, M.D., F.A.C.S.

Certified by American Board of Urology

PRACTICE LIMITED TO UROLOGY

512 University Towers Building

1900 N. Oregon St. KE 2-8130 El Paso, Texas

L. A. GLADSTONE, M.D.

W. D. FEINBERG, M.D.

INTERNAL MEDICINE

Bldg. 14, Suite D 1501 Arizona Ave.
El Paso Medical Center KE 3-2508 El Paso, Texas



Southwestern Physicians' Directory



JAMES J. GORMAN, M.D., F.A.C.P.

Diplomate American Board of Internal Medicine

DIAGNOSIS — GASTROENTEROLOGY

701 First National Building KE 2-6221 El Paso, Texas

J. LEIGHTON GREEN, M.D., F.A.C.S.

GENERAL and GYNECOLOGICAL SURGERY

Suite 3A El Paso Medical Center 1501 Arizona Avenue
Phone KE 2-9790 El Paso, Texas

RALPH G. GREENLEE, M.D., F.A.C.P.

Diplomate American Board of Internal Medicine

INTERNAL MEDICINE

401 N. Garfield Mutual 4-8072 Midland, Texas

DRS. HART, BOVERIE, BLACK,
CLAYTON, GREEN & WHITE

PATHOLOGICAL AND CLINICAL LABORATORIES
X-RAY DIAGNOSIS AND THERAPY

Radioactive Cobalt
Isotopes Beam Therapy

Pathology

M. S. HART, M.D.

C. L. GREEN, M.D.

Diplomates American Board of Pathology

R. F. BOVERIE, M.D.

G. L. BLACK, M.D.

R. S. CLAYTON, M.D.

J. E. WHITE, M.D.

Diplomates American Board of Radiology

MELVIN A. LYONS, M.S.H.A.

Business Manager

El Paso Medical Center Medical Arts Building
1501 Arizona Ave., Suite 2A 415 E. Yandell Drive, Suite 105
KE 3-4478 KE 3-6926

EL PASO, TEXAS

SOL HEINEMANN, M.D., F.A.C.S.

Diplomate, American Board of Urology

UROLOGY

212 University Towers Bldg.

1900 N. Oregon St. LI 2-1539 El Paso, Texas

SOLOMON HELLER, M.D.

INTERNAL MEDICINE

Hematology—Endocrinology

505 University Towers Building

1900 N. Oregon St. KE 3-0406 El Paso, Texas

HERBERT E. HIPPS, M.D.

ORTHOPEDIC SURGERY

1612 Columbus Ave. 4-4701 Waco, Texas

RUSSELL HOLT, M.D.

B. LYNN GOODLOE, M.D.

GENERAL and GYNECOLOGICAL SURGERY

MEDICAL ARTS BUILDING

415 East Yandell Blvd. KE 3-3443 El Paso, Texas

RALPH H. HOMAN, M.D., F.A.C.P.

CARDIOLOGY

ROBERT B. HOMAN, JR., M.D., F.A.C.S.

DISEASES OF THE CHEST — THORACIC SURGERY

Suite 7D El Paso Medical Center 1501 Arizona Avenue
Phone KE 3-1409 El Paso, Texas

GEORGE W. HORTON, M.D.

PRACTICE LIMITED TO ORTHOPEDICS

513 West 4th Street FEderal 2-1271 Odessa, Texas

LOUIS G. JEKEL, M.D.

ROBERT H. SNAPP, M.D.

Diplomates American Board of Dermatology

DERMATOLOGY

550 W. Thomas Rd. CR 4-4901 Phoenix, Ariz

3500 Physicians Road

Southwestern Medicine

W. A. JONES, M.D.

Diplomate American Board of Neurological Surgery

K. ZOLFOGHARY, M.D.,

NEUROLOGICAL SURGERY

Suite 1C El Paso Medical Center 1501 Arizona Avenue
KE 2-7579, KE 3-9076 El Paso, Texas

G. H. Jordan, M.D., F.A.C.S. C. E. Webb, M.D., F.A.C.S.

DRS. JORDAN AND WEBB

Diplomates American Board of Surgery

GENERAL and GYNECOLOGICAL SURGERY

Suite 7B El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-1693 El Paso, Texas



Southwestern Physicians' Directory



LINDELL M. KINMAN, M.D.

Diplomate American Board of Urology

UROLOGY

300 West Alameda Phone MA 2-4111 Roswell, N. Mex.

M. NATHAN KLEBAN, M.D.

Certified by American Board of Internal Medicine

Internal Medicine

610 University Towers Building

1900 N. Oregon St. KE 2-7079 El Paso, Texas

J. T. KRUEGER, JR., M.D.

THORACIC and CARDIOVASCULAR SURGERY

1910 Knoxville PO 3-8281
Ext 250 Lubbock, Texas

GILBERT LANDIS, M.D., F.A.C.S.

Diplomate American Board of Obstetrics & Gynecology

OBSTETRICS, GYNECOLOGY
and GYNECOLOGICAL SURGERY

Suite 15-D KE 3-5023 1501 Arizona Ave.
El Paso Medical Center El Paso, Texas

ROYCE C. LEWIS, JR., M.D.

Diplomate American Board of Orthopedic Surgery

ORTHOPEDIC SURGERY and SURGERY OF THE HAND

1910 Knoxville St. PO 3-8281 Lubbock, Texas

A. L. LINDBERG, M.D.

JOHN W. VOSSKUHLER, M.D.

Neoplastic Diseases

TUCSON TUMOR CLINIC

721 N. 4th Ave. MA 3-2531 Tucson, Arizona

CHARLES P. C. LOGSDON, M.D.

CARDIOLOGY

415 E. Yandell Blvd. KE 3-7916 El Paso, Texas

TRUETT L. MADDOX, D.D.S.

ORAL SURGERY

Suite 9A El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-3659 El Paso, Texas

WALTER B. MANTOOTH, JR., M. D.

Dermatology and Cancer of the Skin

Suite 101 Lubbock
3801 19th Street SWift 9-4359 Texas

GEORGE B. MARKLE, IV, M.D.

Diplomate of the American Board of Surgery

GENERAL and GYNECOLOGICAL SURGERY

911 North Canal TU 5-5240 Carlsbad, New Mexico

HOWARD J. H. MARSHALL, M.D.

Member American Academy of General Practice

GENERAL PRACTICE

Suite 8E 1501 Arizona Avenue
El Paso Medical Center KE 2-2431 El Paso, Texas

MARSHALL CLINIC

I. J. Marshall, M.D.

General Surgery and Diagnosis

U. S. Marshall, M.D.

General Surgery and General Practice

E. A. Latimer, M.D.

General Practice

C. H. Fowler, M.D.

Internal Medicine and Cardiology

Thomas J. Jones, M.D.

Diseases of the Skin and Allergies

H. D. Johnson, Jr., D.D.S.

ROSWELL

NEW MEXICO

MEDICAL CENTER HOSPITAL AND CLINIC

Eugene McCarthy, M.D., FACS, FICS

Diplomate American Board of Obstetrics & Gynecology

Jeff H. Davis, M.D., AAGP; Joe J. Horn, M.D., AAGP

Howard Handcock, M.D., DABR

A. B. Cairns, M.D., FACCP; W. Ralph Thomas, M.D.
220 St. Louis St. CA 4-7426 Plainview, Texas

LEROY J. MILLER, M.D.

Diplomate American Board of Neurological Surgery

NEUROLOGICAL SURGERY

717 Encino Place, NE Phone 3-1150 Albuquerque, N. M.

A. WILLIAM MULTHAUF, M.D., F.A.C.S.

UROLOGICAL DIAGNOSIS AND SURGERY

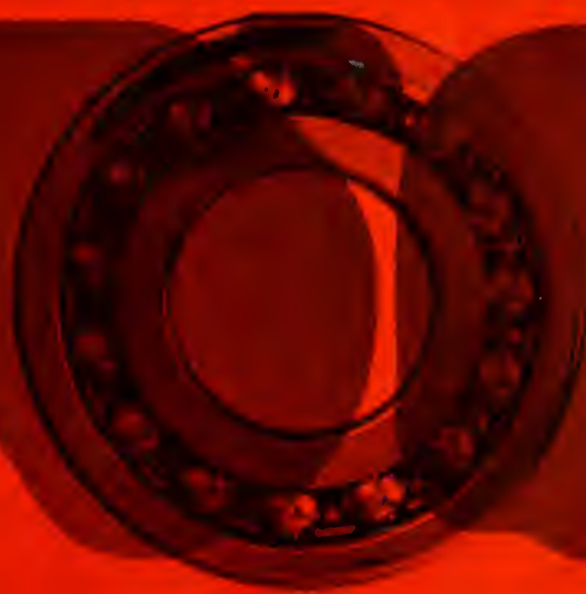
1315 First National Bldg. KE 3-8986 El Paso, Texas

Butazolidin

brand of phenylbutazone

Geigy

Arthritis and allied disorders



Proved by a decade of experience

Ten years of world-wide experience...almost 2000 published reports...have progressively entrenched Butazolidin as the leading nonhormonal antiarthritic agent.

In virtually all forms of arthritic disorder, Butazolidin affords prompt symptomatic and objective improvement without development of tolerance...without danger of hypercortisonism.

Butazolidin®, brand of phenylbutazone, tablets of 100 mg.; Butazolidin® alka capsules containing Butazolidin, 100 mg.; dried aluminum hydroxide gel, 100 mg.; magnesium trisilicate, 150 mg.; homatropine methylbromide, 1.25 mg.

Geigy Pharmaceuticals
Division of Geigy Chemical Corporation
Ardsley, New York

BU 564-61





Southwestern Physicians' Directory



E. K. NEIDICH, M.D., D.A.B.R.

RADIOLOGY

Memorial General Hospital JACKSON 6-2411 Las Cruces, N. M.

WALLACE E. NISSEN, M.D., F.A.C.S.
W. W. KRIDELBAUGH, M.D., F.A.C.S.

GENERAL SURGERY

Medical Arts Square
801 Encino Place, Suite 35 3-2251 Albuquerque, N. M.

F. KEITH OEHLISCHLAGER, M.D.
WILLIAM M. BRANTLEY, M.D.

OBSTETRICS & GYNECOLOGY

1167 E. 42nd St. Sherwood Medical Center Phone
Suites S & 6 Odessa, Texas EM 6-4447

THE ORTHOPEDIC CLINIC
Orthopedic Surgery

W. A. BISHOP, JR., M.D., F.A.C.S.
ALVIN L. SWENSON, M.D., F.A.C.S.
RAY FIFE, M.D.

SIDNEY L. STOVALL, M.D., F.A.C.S.
THOMAS H. TABER, JR., M.D., F.A.C.S.

Diplomates of the American Board of Orthopedic Surgery
2620 North Third Street—Phone CRestwood 7-6211—Phoenix, Ariz.

JAMES M. OVENS, M.D.
F.A.C.S., F.I.C.S.

Diplomate American Board of Surgery

CANCER AND TUMOR SURGERY
X-RAY AND RADIUM THERAPY

608 Professional Building AL 8-8074 Phoenix, Ariz.

ROBERT E. PARKINS, D.D.S.

GENERAL DENTISTRY

Bldg. 1, Suite E 1501 Arizona Ave.
Phone KE 3-1245 El Paso Medical Center El Paso, Texas

MURRAY PERSKY, M.D.

PSYCHIATRY

Suite 15-B 1501 Arizona Ave.
El Paso Medical Center KE 2-7952 El Paso, Texas

JACK C. POSTLEWAITE, M.D.

Diplomate American Board of Internal Medicine

INTERNAL MEDICINE

Suite 5D 1501 Arizona Ave.
El Paso Medical Center KE 2-1385 El Paso, Texas

HUMBERTO QUIRARTE, M.D.

Practice Limited to Urology

204 Medical Arts Building
415 E. Yandell Drive KE 2-2193 El Paso, Texas

DONALD RATHBUN, M.D.

NEUROLOGY

and

Internal Medicine

Suite 4B KE 2-8778 1501 Arizona Ave.
El Paso Medical Center El Paso, Texas

VINCENT M. RAVEL, M.D.

Diplomate American Board of Radiology

Radiology — Radio-Isotopes

Cobalt⁶⁰ — Teletherapy

101 University Towers Bldg.
El Paso KE 2-3459 Texas

HERMAN RICE, M.D.

Practice Limited to General Surgery

El Paso Medical Center

Bldg. 4-B 1501 Arizona Ave.
Phone KE 3-8051 El Paso, Texas

RISSLER-WOLLMANN CLINIC

ROSS W. RISSLER, M.D., F.A.C.S.

(Certified by the American Board of Internal Medicine)
INTERNAL MEDICINE — CARDIOLOGY

WALTER W. WOLLMANN, M.D., F.A.C.S.

(Certified by the American Board of Surgery)
GENERAL SURGERY

2001 Grant Ave. KE 3-1601 El Paso, Texas

*3500 Physicians Road
Southwestern Medicine*

CECIL A. ROBINSON, M.D., F.A.C.S.

Diplomate American Board of Orthopaedic Surgery

Orthopaedic Surgery

111 No. Pine Street JU 6-2541 Kermit, Texas



*once again,
an active
hand in
"doing" —*

PABALATE®



mutually potentiating nonsteroid antirheumatics

"superior to aspirin"² and with a "higher therapeutic index"¹

When sodium should be avoided—

PABALATE®-SODIUM FREE

When conservative steroid therapy is indicated—

PABALATE®-HC

Pabalate with Hydrocortisone

1. Barden, F. W., et al.: J. Maine M. A. 46:99, 1955.

2. Ford, R. A., and Blanchard, K.: Journal-Lancet 78:185, 1958.

In each yellow enteric-coated PABALATE tablet:

Sodium salicylate (5 gr.)
0.3 Gm.
Sodium para-aminobenzoate
(5 gr.) 0.3 Gm.
Ascorbic acid 50.0 mg.

In each pink enteric-coated PABALATE-SODIUM FREE tablet:

Same formula as PABALATE, with sodium salts replaced by potassium salts.

In each light blue enteric-coated PABALATE-HC tablet:

Same formula as PABALATE-SODIUM FREE, plus hydrocortisone (alcohol) . . . 2.5 mg.

Making today's medicines with integrity . . . seeking tomorrow's with persistence.

A. H. ROBINS COMPANY, INC., RICHMOND 20, VIRGINIA



Southwestern Physicians' Directory



S. PERRY ROGERS, M.D.
W. HUNTER VAUGHAN, M.D.
(Diplomates American Board of Orthopedic Surgery)
ORTHOPEDIC SURGERY

Suite 2B El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-4433 El Paso, Texas

WILLARD W. SCHUESSLER, M.D.
DONALD H. EWALT, M.D.
Diplomates of the American Board of Plastic Surgery
Plastic, Reconstructive Surgery and
Maxillo-facial Surgery

1501 Arizona Ave. Medical Center, Suite 4-C
El Paso, Texas

F. P. SCHUSTER, M.D.
S. A. SCHUSTER, M.D.
NEWTON F. WALKER, M.D.
BRADFORD HARDIE, M.D.

EYE, EAR, NOSE AND THROAT-BRONCHOSCOPY
First National Bldg. KE 2-1495 El Paso, Texas

O. J. SHAFFER, D.D.S., F.A.C.D.
(Diplomate American Board of Oral Surgery)

ORAL SURGERY

Suite 1D El Paso Medical Center 1501 Arizona Ave.
Phone KE 3-6742 El Paso, Texas

D. J. SIBLEY, JR., M.D.

GENERAL PRACTICE

Box 367 Phone 5B4 Ft. Stockton, Texas

EUGENE P. SIMMS, M.D.

— GENERAL PRACTICE —

Medical Arts Center

1213 Tenth Street HEmlock 7-1720 Alamogordo, N. M.

Leslie M. Smith, M.D. John C. Wilkinson, M.D.
H. D. Garrett, M.D.

DRS. SMITH, GARRETT & WILKINSON

Diplomates American Board of Dermatology
DISEASES OF THE SKIN

Suite 3D El Paso Medical Center 1501 Arizona Ave.
Phone KE 3-6172 El Paso, Texas

WILLIAM G. SMITH, M.D.
Diplomate American Board of Proctology
Practice Limited to Surgical Diseases
of the Anus, Rectum and Colon

Suite 203 415 E. Yandell Drive El Paso
KE 2-3286 Texas

C. M. STANFILL, M.D.

Diplomate American Board of Otolaryngology

EAR, NOSE AND THROAT

Stapes Mobilization

507 University Towers Building

1900 N. Oregon St. KE 2-9449 El Paso, Texas

ROBERT HEALY STEVENS, B.S., M.D.

F.C.C.P.

ALLERGY — INTERNAL MEDICINE

1313 N. Second St. AL 4-8841 Phoenix, Arizona

C. S. STONE, M.D., F.A.C.S.

A. J. JENSON, B.A., M.D.

Phones: 3-5323 — 3-3033 — 3-4427

301 East Cain Street Hobbs, N.M.

JESSON L. STOWE, M.D.

GRAY E. CARPENTER, M.D.

GYNECOLOGY AND OBSTETRICS

2323 Montana Avenue KE 2-4631 El Paso, Texas

WINSLOW P. STRATEMEYER, M.D.

Diplomate American Board of Neurological Surgery

NEUROLOGICAL SURGERY

Suite 11A Office KE 2-9167 1501 Arizona Ave.
El Paso Medical Center Home JU 4-0553 El Paso, Texas

M. D. THOMAS, M.D.

Diplomate American Board of Anesthesiology

Suite 12-D KE 3-3745

1501 Arizona Ave. El Paso, Texas

El Paso Medical Center

3500 Physicians Road

Southwestern Medicine

ROBERT F. THOMPSON, M.D., F.A.C.S.

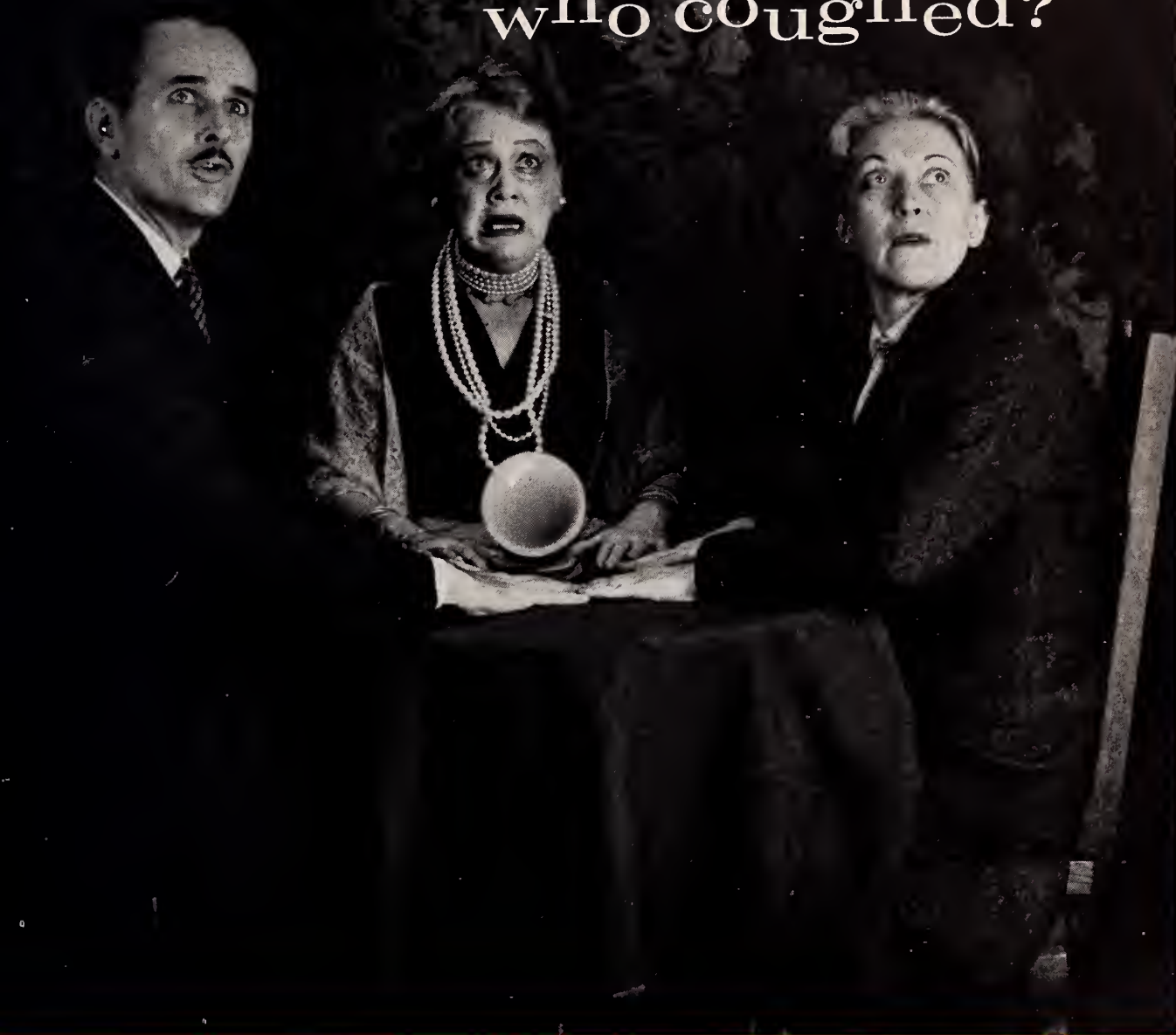
(Certified by American Board of Urology)

UROLOGY

301 University Towers Building

1900 N. Oregon St. KE 2-4321 El Paso, Texas

who coughed?



WHENEVER COUGH THERAPY
IS INDICATED

HYCOMINE[®]

Syrup

THE COMPLETE Rx FOR COUGH CONTROL

*cough sedative / antihistamine
decongestant / expectorant*

- relieves cough and associated symptoms in 15-20 minutes ■ effective for 6 hours or longer ■ promotes expectoration ■ rarely constipates ■ agreeably cherry-flavored

Each teaspoonful (5 cc.) of HYCOMINE[®] Syrup contains:
Hycodan[®]

Dihydrocodeinone Bitartrate	5 mg.	} 6.5 mg.
(Warning: May be habit-forming)		
Homatropine Methylbromide	1.5 mg.	

Pyrilamine Maleate	12.5 mg.
Phenylephrine Hydrochloride	10 mg.
Ammonium Chloride	60 mg.
Sodium Citrate	85 mg.

Average adult dose: One teaspoonful after meals and at bedtime. May be habit-forming. Federal law permits oral prescription.

Literature on request



ENDO LABORATORIES
Richmond Hill 18, New York



Southwestern Physicians' Directory



TURNER'S CLINICAL & X-RAY LABORATORIES

GEORGE TURNER, M.D.
DELPHIN von BRIESEN, M.D.
HELEN W. ANDERSON, M.D.

MEDICAL CENTER

1501 Arizona Ave.
Building No. 6

Phone: KE 2-4689
El Paso, Texas

HARRY H. VARNER, M.D.
LEIGH E. WILCOX, M.D.
RUSSELL L. DETER, M.D.
GENERAL SURGERY

Suite 5E

Phone KE 2-6529

1501 Arizona Ave.
El Paso Medical Center
El Paso, Texas

WILLIAM H. WADE, M.D., F.A.C.S.

Diplomate American Board of Surgery

GENERAL SURGERY
CARDIOVASCULAR SURGERY

307 Medical Arts Building
415 E. Yandell Drive KE 2-8111

El Paso, Texas

RICHARD P. WAGGONER, M.D.

M.S. (SURG.), F.A.C.S.

GENERAL SURGERY

504 N. Richardson St.

Phone 208

Roswell, N. M.

GRADY M. WALLACE, M.D., D.A.B.O.

Practice Limited to the Eye

3801 19th Street

SW 9-4343

Lubbock, Texas

Hotel Dieu, Sister's Hospital

Fully Approved by the
Joint Commission on Accreditation
of Hospitals.

Latest Facilities For All Services.
Emergency Service Around
the Clock.

EL PASO, TEXAS

Hotel Dieu School of Nursing

Fully approved by the
National Nursing Accrediting
Service.

Applicants May Apply
To
Sister Aloysius, Director

EL PASO, TEXAS

Hotel Dieu School of Medical Technology

Fully Approved by the American
Medical Association, American
Society of Clinical Pathologists,
and Registry of Medical Tech-
nologists.

EL PASO, TEXAS

The Clinic-Hospital of San Angelo

D. D. WALL, M.D.
Obstetrics & Gynecology
R. M. FINKS, M.D.
Pediatrics
M. D. KNIGHT, M.D.
Surgery
W. H. BRAUNS, M.D.
Internal Medicine

ROY E. MOON, M.D.
Obstetrics & Gynecology

CHAS. F. ENGELKING, M.D.
Ear, Nose and Throat

DALE W. HAYTER, M.D.
Ophthalmology

R. A. MORSE, M.D.
Internal Medicine
RALPH R. CHASE, M.D.
Pediatrics
TOM R. HUNTER, M.D.
Surgery
H. W. DISERENS, M.D.
Pediatrics

Consultant in Pathology: LLOYD R. HERSHBERGER, M.D.

Consultants in Radiology: JOHN E. BALLARD, M. D.; JOHN G. BOLEN, M.D.

224-234 W. BEAUREGARD AVE.

J. B. ADCOCK, Administrator

SAN ANGELO, TEXAS



Southwestern General Hospital

Accredited by the Joint Commission on Accreditation of Hospitals

Member Hospital:

American Hospital Association
Texas Hospital Association
Blue Cross of Texas

•

COTTON AVENUE AND ERIE STREET • EL PASO, TEXAS

Serving You 365 Days A Year

SOUTHWEST BLOOD BANKS

JOHN B. ELSEVER, M.D.
General Medical Director

Federally Licensed and Supervised by
Physicians from the Southwest to Provide
Blood and Plasma of Highest Quality on a
24-Hour Basis.

Albuquerque	El Paso
Harlingen	Houston
Lubbock	Phoenix
	San Antonio

DUTTON LABORATORIES

FREDERICK P. BORNSTEIN, M.D.
(Certified by American Board of Pathology)
Pathological Anatomy and Forensic Pathology

RITA L. DON, M.D.
(Associate Fellow, American College of Allergists)
Allergy and Clinical Pathology

JOHN B. FRERICHS, M.D.
(Certified by American Board of Pathology)
Pathological Anatomy and Clinical Pathology

J. A. HANCOCK, Ph.D.
Consultant in Chemistry

616 Mills Bldg.	KE 2-3901
102 University Towers	El Paso, Texas

Give Us A Trial On Your

TAYLOR BACK BRACE

Orders

- Send the following measurements: from level of shoulders to tip of sacrum; circumference of pelvis above trochanters; circumference of waist; height and weight.

CHRISTOPHER'S BRACE AND LIMB CO.

2231 Montana St.

KE 2-9690

EL PASO, TEXAS

UNIFORMS

Doctors • Nurses • Interns • Technicians

Poplin, Nylon, Dacron
White and Colors

SURE-FIT UNIFORM CO.

612 N. Oregon St. KE 2-1374 El Paso, Texas

C. G. McDow and Son, Props.

Rio Grande Pharmacy

419-421 South Stanton St. KE 2-4473 El Paso, Texas

Only At The Popular In El Paso . . .
Hickey Freeman Customized Clothes

POPULAR DRY GOODS CO.



GUNNING & CASTEEL DRUG STORES

"There is no finer prescription service . . . anywhere"

14 Conveniently Located Stores

El Paso, Texas

TAYLOR-SIMPKINS, INC.

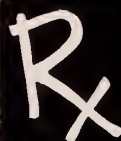
MEDICAL OXYGEN

2123 Texas St.

KE 3-0952

El Paso, Texas

Nights — Call LO 5-0359, or LO 5-3060



MEDICAL CENTER PHARMACY

YOUR PROFESSIONAL PHARMACY
IN THE NEW MEDICAL CENTER

PHONE 2-6968-69

1501 ARIZONA ST.

EL PASO, TEXAS

We Carry A Complete Line of

DIABETIC FOODS AND SUPPLIES

McKEE PRESCRIPTION PHARMACY

107 East San Antonio Ave., El Paso

Dial KE 2-2693

For Your Convenience

Use Our Handy Charge-A-Plate Service!

the white house

El Paso, Texas

RICHARD E. MARTIN

MARTIN MORTUARY

Dial KE 2-3691

710 N. Stanton St.

El Paso, Texas

HARDING AND ORR Funeral Home

EL PASO, TEXAS

320 Montana Ave.

KE 3-1646

Kaster & Maxon

Funeral Home

El Paso, Texas

KE 2-3431



Front View — Enclosed Patio

Sandia Ranch Sanatorium

Rt. 4, Box 4104

Phone 4-3273

Albuquerque, New Mexico

Licensed by State Health Department as a Psychiatric Hospital of 50 Beds
For the Care and Treatment of Nervous or Mental Disorders

VARIOUS ACCEPTED FORMS OF THERAPY AVAILABLE

OCCUPATIONAL THERAPY AND OUTDOOR ACTIVITIES

CLINICAL LABORATORY AND ELECTROENCEPHALOGRAM

LIMITED FACILITIES FOR DOMICILIARY CARE

Favorable Year Round Climate — 20 Acres Landscaped Grounds

JOHN W. MYERS, M.D., Medical Director

ALAN JACOBSON, M.D., Psychiatrist

FRED W. LANGNER, M.D., Psychiatrist

OVERTON CLINIC

300 Hughes Building

PAMPA, TEXAS

M. C. Overton, Jr., M.D.
Surgery and Gynecology

E. S. Williams, M.D.
Pediatrics and Obstetrics

J. R. Donaldson, M.D.
Surgery

G. R. Hrdlicka, M.D.
Radiology

C. M. Lang, M.D.
Surgery

R. W. Moore, M.D.
Internal Medicine

new...



SMALL



ODORLESS



EASY-TO-TAKE



TASTELESS

prulet®



Mission
PHARMACAL CO.

SAN ANTONIO, TEXAS

Laxative

The active ingredient:
is analogous to a sub-
stance found in prunes.
Is not absorbed from
the digestive tract.

as powerful as the narcotics
in cough suppression...
but much longer acting

NON-NARCOTIC
ULO®
Chlophedianol HCl
SYRUP

**one teaspoonful affords
4 to 8 hours' freedom
from cough distress**

ULO maintains its maximal cough-suppressant effect undiminished for 4 to 8 hours, thus calling for fewer daytime doses and usually providing freedom from cough distress through the night.

notable safety

There are no known contraindications. Free from the undesirable side actions of narcotics. Side effects such as nausea and transient dizziness occur infrequently.

**extensive clinical
experience**

Used in thousands of patients with acute cough from any cause, ULO has proved as effective as narcotics but superior to them in duration of action.

Write for Physicians' Reference Brochure with full bibliography.

For Children, too

Exceptionally well tolerated; no narcotic overlay; compatible with other indicated medications.



Northridge, California

Janet Doe, Librarian
New York Academy of Medicine
2 East 103 Street
New York 29, New York

Southwestern MEDICINE

Official Journal of The Southwestern Medical Association, The Western Association of Railway Surgeons, The Texas Orthopaedic Association, The Southwest Obstetrical and Gynecological Society, The Southwestern Dermatological Society, Texas District One Medical Association, The Southwestern New Mexico Medical Society, and El Paso County Medical Society

IN THIS ISSUE

Texas Orthopaedic Association to Meet in Galveston	Page 117
Chemotherapy in Current Psychiatry	Page 118
Tetanus	Page 122
Aphoristic Quotes	Page 125
Clinical Pathological Conference R. E. Thomason General Hospital, El Paso	Page 127

COMPLETE CONTENTS ON PAGE 108

March, 1961

VOL. 42, NO. 3



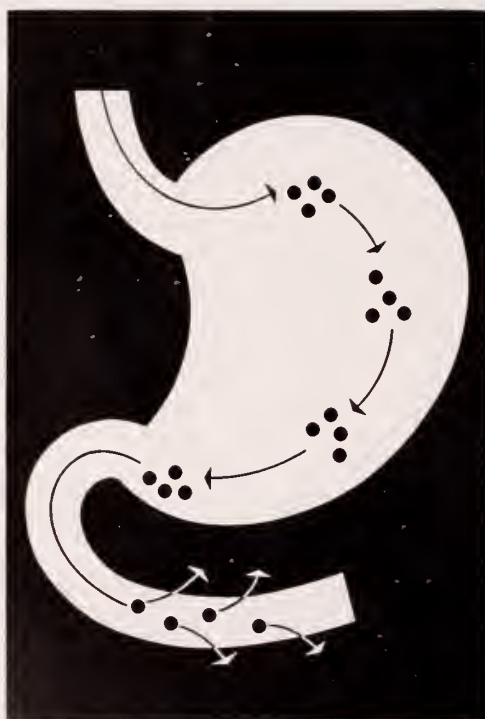
Founded 1916



why
you
can expect more
from

Ilosone®

(propionyl erythromycin ester lauryl sulfate, Lilly)



■ "The high levels, plus prolonged duration of antibacterial activity and no decrease in absorption when given with food, should provide greater therapeutic effectiveness . . ."¹

1. Griffith, R. S.: Antibiotic Med. & Clin. Therapy, 7:320, 1960.

Ilosone, in its more acid-stable form, eliminates the need for an "empty stomach" for effective antibiotic therapy. Food no longer interferes with absorption to any great extent. Moreover, enhanced absorption from the intestine in comparison with that of older forms of erythromycin assures greater certainty of therapeutic response. Thirdly, Ilosone is notably safe. In a review of over 20,000 case reports, there were no serious side-effects or toxic reactions.

Summing up: Ilosone works decisively in a wide variety of infections.

Usual Dosage:

For infants and for children under twenty-five pounds of body weight, 5 mg. per pound every six hours; for children weighing twenty-five to fifty pounds, 125 mg. every six hours.

For adults and for children over fifty pounds, 250 mg. every six hours.

In more severe or deep-seated infections, these dosages may be doubled.

Available in Pulvules®, suspension, and drops.

In convenient tablet form...

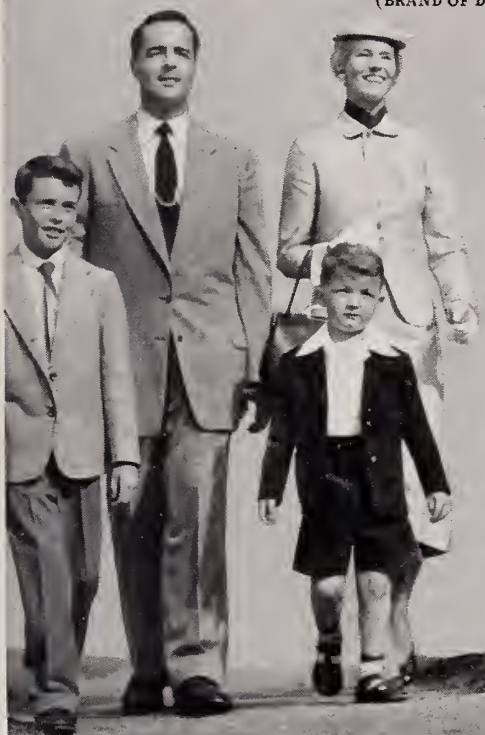
LOMOTIL[®]

(BRAND OF DIPHENOXYLATE HYDROCHLORIDE WITH ATROPINE SULFATE)

LOWers propulsive
MOTILity

Stops diarrhea promptly

Now an exempt preparation under
revised Federal Narcotic Laws



Extensive clinical experience in the United States and Europe demonstrates that Lomotil provides prompt and positive symptomatic control of diarrhea.

Lomotil possesses a highly efficient antiperistaltic action. It controls diarrhea with few or none of the undesirable side effects of many other commonly used antiperistaltic agents.

In the control of diarrhea, Lomotil offers safety, efficacy and greater convenience.

DOSAGE: The recommended initial dosage for adults is two tablets (2.5 mg. each) three or four times daily, reduced to meet the requirements

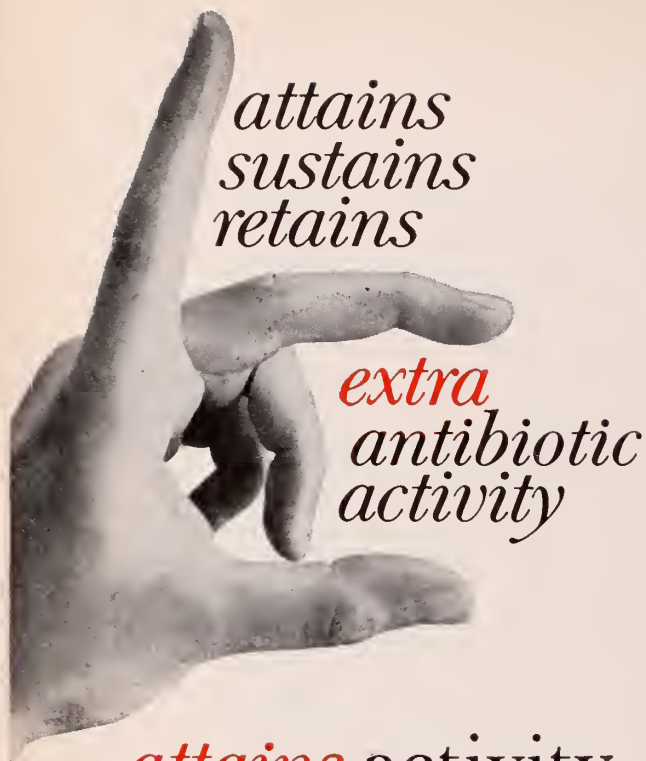
of each patient as soon as the diarrhea is under control. Maintenance dosage may be as low as two tablets daily. Lomotil, brand of diphenoxylate hydrochloride with atropine sulfate, is supplied as unscored, uncoated white tablets of 2.5 mg., each containing 0.025 mg. ($\frac{1}{2400}$ grain) of atropine sulfate to discourage deliberate over-dosage.

Recommended dosage schedules should not be exceeded.

G. D. SEARLE & CO.

CHICAGO 80, ILLINOIS

Research in the Service of Medicine



*attains
sustains
retains*

*extra
antibiotic
activity*

DECL

attains activity
levels promptly

DECLOMYCIN Demethylchlortetracycline attains — usually within two hours—blood levels more than adequate to suppress susceptible pathogens—on daily dosages substantially lower than those required to elicit antibiotic activity of comparable intensity with other tetracyclines. The average, effective, adult daily dose of other tetracyclines is 1 Gm. With DECLOMYCIN, it is only 600 mg.

sustains activity
levels evenly

DECLOMYCIN Demethylchlortetracycline sustains through the entire therapeutic course, the high activity levels needed to control the primary infection and to check secondary infection at the original and another—site. This combined action is usually maintained without the pronounced hour-to-hour, day-to-day, dose, peak-and-valley fluctuations which characterize other tetracyclines.

TETRACYCLINE
ACTIVITY
WITH
DECLOMYCIN
THERAPY

DOSAGE
150 mg. q.i.d.

TETRACYCLINE
ACTIVITY
WITH OTHER
TETRACYCLINE
THERAPY

DOSAGE
250 mg. q.i.d.

DECLOMYCIN—SUSTAINED ACTIVITY LEVELS

OTHER TETRACYCLINES—PEAKS AND VALLEYS

POSITIVE ANTIBACTERIAL ACTION

PROTECTION AGAINST PROBLEM PATHOGENS

DECLOMYCIN[®]

DEMETHYLCHLORTETRACYCLINE LEDERLE

retains activity
levels 24-48 hrs.

DECLOMYCIN Demethylchlortetracycline retains activity levels up to 48 hours after the last dose is given. At least a full, extra day of positive action may be confidently expected. The average, daily adult dosage for the average infection—1 capsule q.i.d.—is the same as with other tetracyclines...but **total** dosage is lower and duration of action is longer.

CAPSULES, 150 mg., bottles of 16 and 100. **Dosage:** Average infections—1 capsule four times daily. Severe infections—Initial dose of 2 capsules, then 1 capsule every six hours.

PEDIATRIC DROPS, 60 mg./cc. in 10 cc. bottle with calibrated, plastic dropper. **Dosage:** 1 to 2 drops (3 to 6 mg.) per pound body weight per day—divided into 4 doses.

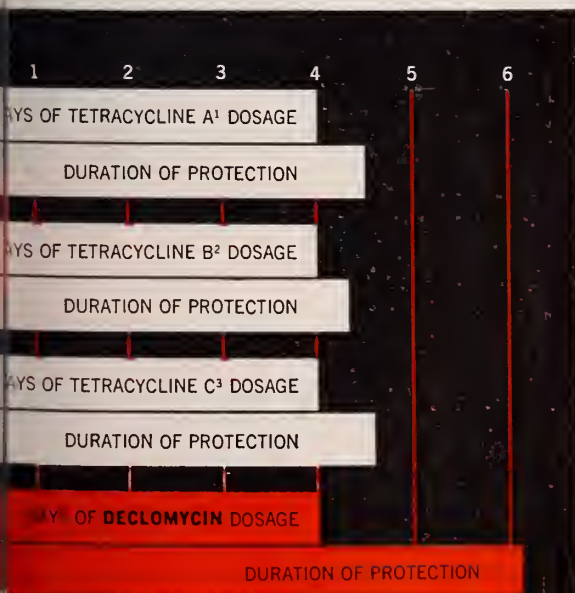
SYRUP, 75 mg./5 cc. teaspoonful (cherry-flavored), bottles of 2 and 16 fl. oz. **Dosage:** 3 to 6 mg. per pound body weight per day—divided into 4 doses.

PRECAUTIONS—As with other antibiotics, DECLOMYCIN may occasionally give rise to glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis or dermatitis. A photodynamic reaction to sunlight has been observed in a few patients on DECLOMYCIN. Although reversible by discontinuing therapy, patients should avoid exposure to intense sunlight. If adverse reaction or idiosyncrasy occurs, discontinue medication.

Overgrowth of nonsusceptible organisms is a possibility with DECLOMYCIN, as with other antibiotics. The patient should be kept under constant observation.



LEDERLE LABORATORIES
A Division of
AMERICAN CYANAMID COMPANY
Pearl River, New York



(1) Oxytetracycline. (2) Chlortetracycline. (3) Tetracycline.

PROTECTION AGAINST RECURRENCE

Southwestern Medicine

*The U. S.-Mexico Regional Medical Journal Serving West
Texas, New Mexico, Arizona, Nevada and Northern Mexico*

Official Journal of

The Southwestern Medical Association, The Western Association of
Railway Surgeons, The Texas Orthopaedic Association, The
Southwest Obstetrical and Gynecological Society, The
Southwestern Dermatological Society, Texas District
One Medical Association, The Southwestern New
Mexico Medical Society, and El Paso County
Medical Society

VOL. 42 MARCH, 1961 No. 3

BOARD OF MANAGERS

Sherwood Burr, M.D.	Leland Evans, M.D.
Harold J. Beck, M.D.	Darwin Neubauer, M.D.
David Russek, M.D.	Carlos Tapia, M.D.
M. D. Thomas, M.D.	Louis W. Breck, M.D.
John Dettweiler, M.D.	H. D. Garrett, M.D.
Russell L. Deter, M.D.	Jack A. Bernard, M.D.
Louis G. Jekel, M.D.	Morton H. Leonard, M.D.
John F. Wanless, M.D.	

EDITOR

Lester C. Feener, M.D.
404 Banner Building, El Paso, Texas

MANAGING EDITOR

Louis W. Breck, M.D.
1220 North Stanton Street, El Paso, Texas

ASSOCIATE EDITORS

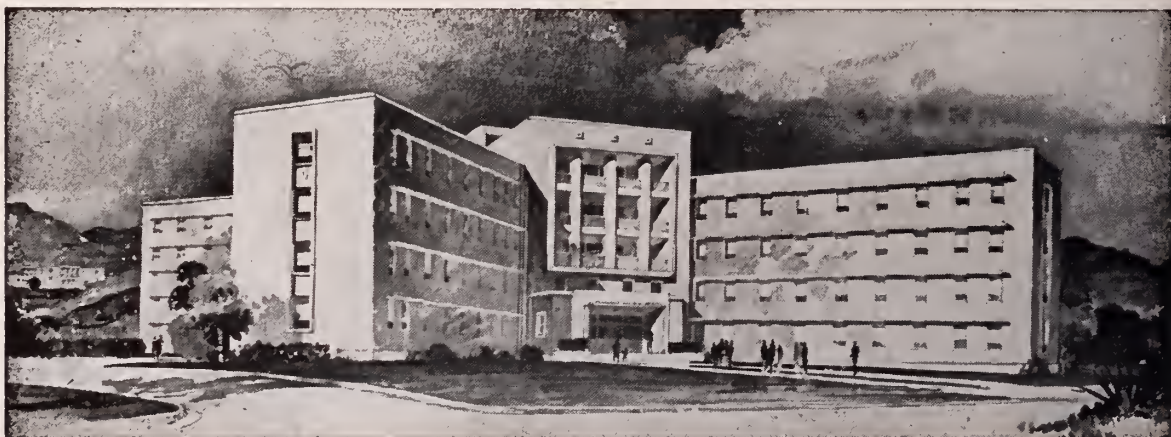
Branch Craige, M.D. Maurice P. Spearman, M.D.

ADVERTISING AND SUBSCRIPTION OFFICES

Mott, Reid & McFall
Publishers
310 N. Stanton St., El Paso, Texas
Publication Office
265 Texas St., Fort Worth, Texas
Subscription Price \$5.00 — Single copies 50c
Published Monthly

Gordon M. Marshall — National Advertising Representative
30 West Washington Street, Chicago, Ill., Dearborn 2-5148;
Eastern Office — John H. Hinse, Room 340, 15 West 44th Street
New York 36, Oxford 7-5262.

Second-class mail privileges authorized at Fort Worth, Texas
Postmaster: All undeliverable copies returnable under Form 3579
should be to Southwestern Medicine, 310 North Stanton Street,
El Paso, Texas.



Providence Memorial Hospital

The Modern Hospital of the Southwest

APPROVED BY THE JOINT COMMISSION ON ACCREDITATION OF HOSPITALS

COMPLETE DIAGNOSTIC and TREATMENT FACILITIES

ISOTOPE THERAPY AND STUDIES

COBALT 60 ROTATIONAL TELETHERAPY UNIT

OUTSTANDING CHEMISTRY LABORATORY

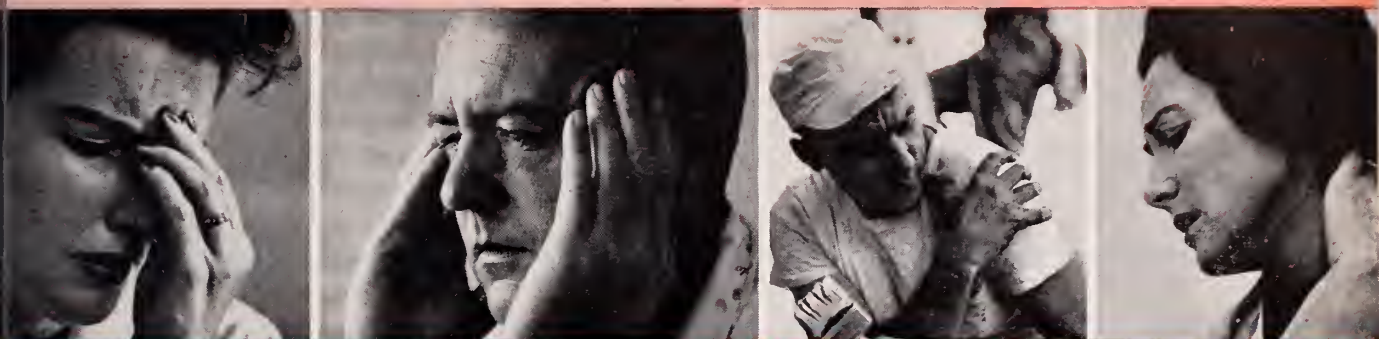
FACILITIES FOR PSYCHIATRIC THERAPY

ELECTROENCEPHALOGRAPHIC LABORATORY

2001 North Oregon Street

• El Paso, Texas

Percodan tablets effectively relieve pain through a range of



intensities commencing with moderate pain and extending



through major traumatic areas into further regions of severe pain



Percodan®

salts of Dihydrohydroxycodone and Homatropine, plus APC)
TABLETS

for pain

prompt relief
profound relief
prolonged relief

ACTS FASTER—usually within 5-15 minutes. **LASTS LONGER**—usually 6 hours or more. **MORE THOROUGH RELIEF**—permits uninterrupted sleep through the night. **RARELY CONSTIPATES**—excellent for chronic or bedridden patients.

AVERAGE ADULT DOSE: 1 tablet every 6 hours. May be habit forming. Federal law permits oral prescription.

Each PERCODAN* Tablet contains 4.50 mg. dihydrohydroxycodone hydrochloride, 0.38 mg. dihydrohydroxycodone terephthalate, 0.38 mg. homatropine terephthalate, 224 mg. acetylsalicylic acid, 160 mg. acetophenetidin, and 32 mg. caffeine.

Also available—for greater flexibility in dosage—PERCODAN®-DEMI: The PERCODAN formula with one-half the amount of salts of dihydrohydroxycodone and homatropine.

Endo®

LITERATURE AVAILABLE ON REQUEST

ENDO LABORATORIES
Richmond Hill 18, New York

*U.S. Patent Nos. 2,628,185 and 2,907,768

Contents

Texas Orthopaedic Association to Meet in Galveston	Page 117
Chemotherapy in Current Psychiatry	Page 118
By Rudolph Kieve, M.D., Santa Fe	
Book Review—Light Coagulation	Page 121
Tetanus	Page 122
By Owen C. Taylor, Jr., M.D., and Henry L. Wall, M. D. Artesia, N.M.	
Aphoristic Quotes	Page 125
Collected by Andrew M. Babey, M.D., Las Cruces, N.M.	
Clinical Pathological Conference; R. E. Thomason General Hospital, El Paso	Page 127
F. P. Bornstein, M.D., Editor Presentation of Case by Nathan Kleban, M.D.	

COMING MEETINGS

American College of Gastroenterology, Southern Regional Meeting, Jesse H. Jones Library Bldg., Texas Medical Center, Houston, March 19, 1961.

Texas Chapter, American College of Chest Physicians, Annual Meeting, Moody Convention Center, Galveston, April 23, 1961.

Texas Orthopaedic Association, Annual Meeting, Galveston, Texas, April 24, 1961.

New Mexico Medical Society, 79th Annual Meeting, La Fonda Hotel, Santa Fe, May 16-20, 1961.

United States-Mexico Border Public Health

Association, Annual Meeting, San Diego, June 25-29, 1961.

Postgraduate Course in Pediatrics, The University of Colorado School of Medicine, Stanley Hotel, Estes Park, Colorado, August 21-25, 1961.

Western Association of Railway Surgeons, Annual Meeting, Holiday Hotel, Reno, Nev., Sept. 28-30, 1961.

Southwest Obstetrical & Gynecological Society, Eleventh Annual Meeting, Konakai Club, San Diego, Oct. 15-17, 1961.

Southwestern Medical Association, 43rd Annual Meeting, Tropicana Hotel, Las Vegas, Nev., Oct. 19-21, 1961.



Schering

SEASONAL ALLERGIC CORYZA? An air-conditioned, pollen-free room is a part-time help... In any case, the allergic symptoms are well controlled with **CHLOR-TRIMETON[®]**

CHLORPHENIRAMINE MALEATE

Supplied as 4 mg. tablets, 8 and 12 mg. REPETABS[®], and Syrup, 2 mg./4 cc.

5-717

POLLEN?

NEW PROTEIN TISSUE-BUILDING AGENT **ADROYD**[®] oxymetholone Parke-Davis

FOR SIGNIFICANT ANABOLIC GAINS IN: ASTHENIA (UNDER-WEIGHT, ANOREXIA, LACK OF VIGOR); CONVALESCENCE FROM SURGERY OR SEVERE INFECTIONS; WASTING DISEASES; BURNS; FRACTURES; OSTEOPOROSIS; AND IN OTHER CATABOLIC STATES

■ PROMOTES AND MAINTAINS POSITIVE NITROGEN BALANCE ■ HELPS RESTORE APPETITE, STRENGTH, AND VIGOR ■ BUILDS FIRM, LEAN MUSCULAR TISSUE ■ FAVORABLY INFLUENCES CALCIUM AND PHOSPHORUS METABOLISM ■ PROMOTES A SENSE OF WELL-BEING

ADROYD PROVIDES HIGH ANABOLIC ACTIVITY—The tissue-building potential of ADROYD exceeds its androgenic action to the extent that masculinizing effects are not usually a problem in clinical use at recommended dosage levels.* Other advantages of ADROYD are: Neither estrogenic nor progestational. No significant fluid retention. Apparent freedom from nausea, vomiting, and other gastrointestinal disturbances. Effective by the oral route.

Supplied: 10-mg. scored tablets, bottles of 30. *Reports to Department of Clinical Investigation, Parke, Davis & Company, 1958 and 1959.

PARKE-DAVIS

PARKE, DAVIS & COMPANY, Detroit 32, Michigan.

ADROYD (oxymetholone, Parke-Davis), 17 beta-hydroxy-2-hydroxymethylene-17-alpha-methyl-3-androstanone, 10-mg. grooved tablets. *Indications:* Negative nitrogen balance as in asthenia, carcinomatosis (except prostatic carcinoma), chronic diseases (osteoporosis, tuberculosis, sprue, Still's disease), following surgery, severe infections, severe burns, and fractures, also preoperatively, especially in debilitated patients, and to stimulate appetite and weight gain in the underweight. *Dosage:* Orally, before or with meals, for 10 to 20 days, up to six months if necessary but generally not over 90 days. Adults—15 mg. daily, adjusted to 10 to 30 mg. as indicated. Prepubertal children—5 to 10 mg. daily; older children, adult dose. *Precaution:* Because ADROYD retains some androgenicity, it shares with all androgens the tendency to salt retention. Use with caution in presence of cardiac disease and hepatic damage. Contraindicated in prostatic carcinoma, nephritis, and nephrosis. Liver function tests are useful in following hepatic function during therapy. Observe the young and preadolescent for possible masculinization.

Feb. 1961 (P-487)

FOR EFFECTIVE FLUID MAINTENANCE THERAPY

ISOLYTE® M

Composition per Liter

Dextrose Gm.	Milliequivalents					Calories	mOs.
	Na ⁺	K ⁺	Cl ⁻	Lact ^{-*}	HPO ₄ ⁼		
50	40	35	40	20	15	180	400

*Bicarbonate precursor



DON BAXTER, INC. • GLENDALE, CALIFORNIA

Safety through simplicity



DON
BAXTER,
INC.
GLENDALE,
CALIFORNIA





*The
Extra
Measure
of
Caution...*

Tetracycline now combined with the new, more active antifungal antibiotic—Fungizone—for broad spectrum therapy / antimonial prophylaxis

A new advance in broad spectrum antibiotic therapy, MYSTECLIN-F provides all the well-known benefits of tetracycline and also contains the new, clinically proved antifungal antibiotic, Fungizone. This Squibb-developed antibiotic, which is unusually free of side effects on oral administration when given in oral prophylactic doses, has substantially greater in vitro activity than nystatin against strains of *Candida* (Monilia) albicans.

Thus, in addition to providing highly effective broad spectrum therapy, MYSTECLIN-F prevents the monial overgrowth in the gastrointestinal tract so commonly associated

with such therapy. It helps to protect the patient from troublesome, even serious, monial complications.

New Mysteclin-F provides this added antifungal protection at little increased cost to your patients over ordinary tetracycline preparations.

Available as: MYSTECLIN-F CAPSULES (250 mg./50 mg.) MYSTECLIN-F HALF STRENGTH CAPSULES (125 mg./25 mg.) MYSTECLIN-F FOR SYRUP (125 mg./25 mg. per 5 cc.) MYSTECLIN-F FOR AQUEOUS DROPS (100 mg./20 mg. per cc.)

For complete information, consult package insert or write to Professional Service Department, Squibb, 745 Fifth Avenue, N. Y. 22, N. Y.

SQUIBB



*Squibb Quality —
the Priceless Ingredient*

**NEW
MYSTECLIN-F**

Squibb Phosphate-Potentiated Tetracycline (SUMYCIN) plus Amphotericin B (FUNGIZONE)

*MYSTECLIN®, SUMYCIN®, AND FUNGIZONE® ARE SQUIBB TRADEMARKS



rhinopto nose drops

**In Nasal Decongestant Therapy
when effective shrinkage
is desired in treating
Colds • Sinusitis
Allergic Rhinitis**

- Rapid and prolonged action
- Small dosage—well tolerated
- Physiological rationale

Contains:

Phenylephrine Hydrochloride 0.15%,
'Propadrine' Hydrochloride 0.3%
In an Isotonic Saline Menstruum.



*Samples on
request.*

*Prescribed by
physicians for
over 25 years.*

RHINOPTO COMPANY 3905 Cedar Springs • Dallas, Texas

BLOOM RHINOPTO-# 279-DEC'60

Q
U
A
L
I
T
Y



P
A
P
E
R
S

EXAMINATION TABLE ROLLS

All Sizes Available
Smooth and Crepe Paper

PROFESSIONAL TOWELS

Best Quality Cellulose
White and Green

ASK YOUR SUPPLIER FOR TIDI.

TIDI PRODUCTS are always of best quality,
uniform, and economical in use.

Distributed throughout the USA

M'd. by TIDI PRODUCTS, Pomona, California

Full Antispasmodic Action



Four times more po-
tent than atropine in
Depressing Ganglionic
Transmission



Homapin® 4



Dyspepsia, Nausea,
Regurgitation



Ulcers, Cholecystitis,
Enteritis or Pelvic
Disease

A Single Pure Synthetic Alkaloid



No Drying, Flushing
or Visual Blur

MISSION PHARMACAL CO.
SAN ANTONIO, TEXAS



it's clear

IN SINUSITIS, COLDS AND UPPER RESPIRATORY DISORDERS

DIMETAPP[®] Extentabs[®]

LET YOUR PATIENTS BREATHE EASIER!

In sinusitis, colds and other upper respiratory and allergic disorders, new DIMETAPP Extentabs offer more useful decongestant therapy.

UNSURPASSED RELIEF OF NASAL CONGESTION: In DIMETAPP Extentabs, the unexcelled antihistamine, Dimetane, and two outstanding decongestants—phenylephrine and phenylpropanolamine—promptly dry secretions and reduce edema and congestion in the nose, the sinuses, and the upper respiratory tract.

CLEAR BREATHING FOR 12 HOURS ON 1 TABLET: Long-acting DIMETAPP Extentabs offer up to 12-hour relief on just one tablet. Easier-to-use DIMETAPP reaches into areas which nose drops or

sprays can't touch—without rebound congestion.

EXCEPTIONAL FREEDOM FROM SIDE EFFECTS: DIMETAPP Extentabs are exceptionally free of side reactions. Dimetane offers a high percentage of relief with only drowsiness as a possible, infrequent side effect. Small, fully efficient dosages of decongestants minimize overstimulation.

DIMETAPP Extentabs contain Dimetane[®] (parabromdylamine [brompheniramine] maleate) 12 mg., phenylephrine HCl 15 mg., and phenylpropanolamine HCl 15 mg.

DOSAGE: Adults—1 Extentab q. 8-12 hours. Children over 6—1 Extentab q. 12 hours. Administer with caution to patients with cardiac or peripheral vascular diseases and hypertension, and to those sensitive to antihistamines. See package insert for further details and bibliography.

A. H. Robins Co., Inc., Richmond 20, Virginia
ETHICAL PHARMACEUTICALS OF MERIT SINCE 1878



Urised combats bacteria while providing soothing relief in cystitis, urethritis, pyelitis, pyelonephritis, and prostatitis. Urised avoids toxic reactions or drug resistance.

as a first choice **URISED[®]**
is effective in 80 to 90%
of urinary infections^{1,2,3,4} (no side effects reported)

Each Urised tablet contains: Atropine Sulfate 1/2000 gr., Hyoscyamine 1/2000 gr., Methenamine, Methylene Blue, Benzoic Acid, Salol and Gelsemium. *Supplied:* Bottles of 100.

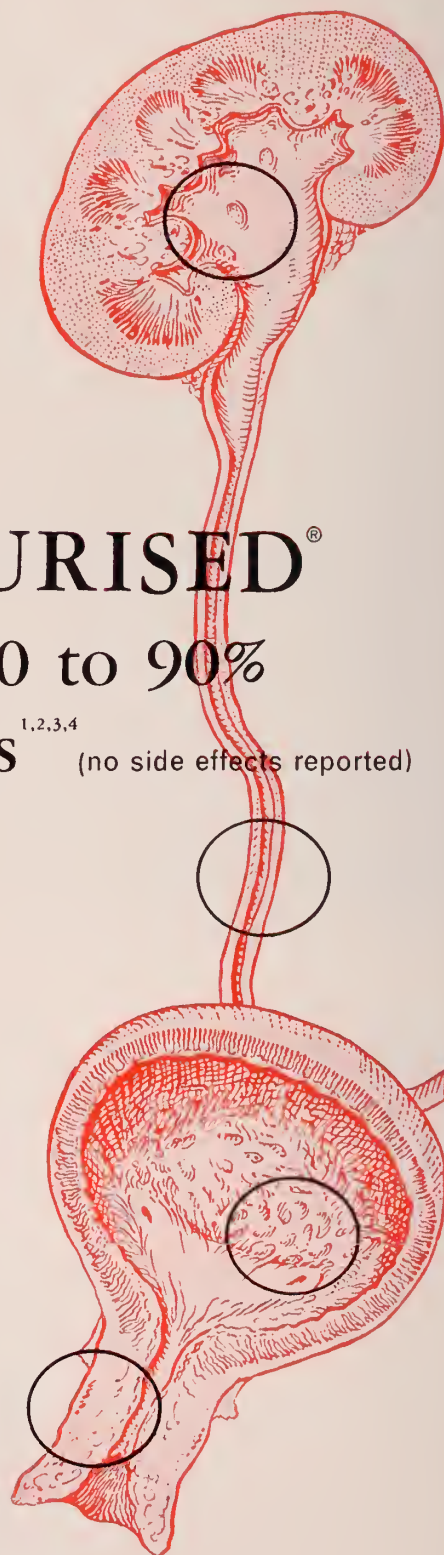
(1) Marshall, W.: Clin. Med. 7:499-502, 1960; (2) Haas, J., and Kay, L. L.: Management of Urinary Tract Infections (to be published); (3) Renner, J., et al.: Urinary Tract Infections: Treatment with Antiseptic-Antispasmodic Agent (to be published). (4) Strauss, B.: Clin. Med. 4: 309-310, 1957



Rx URISED[®]

CHICAGO PHARMACAL COMPANY

5547 N. Ravenswood Ave., Chicago 40, Ill.



MEETINGS

Texas Orthopaedic Association to Meet in Galveston

The 11th annual meeting of the Texas Orthopaedic Association will be held in the Buccaneer Hotel in Galveston, Monday, April 24, 1961, in conjunction with the annual meeting of the Texas Medical Association.

Guest speakers will be Dr. Harvey R. Butcher, St. Louis, Assistant Professor of Surgery at the University of Washington Medical School; Dr. Edwin F. Cave, Boston, Assistant Professor of Orthopaedic Surgery at the Harvard University Medical School; and Dr. T. B. Quigley, Boston, Clinical Professor of Surgery at the Harvard University Medical School.

Officers of the Association are Dr. I. S. McReynolds, Houston, president; Dr. Herbert Hipps, Waco, vice-president; Dr. Margaret Watkins, Dallas, secretary. Dr. E. Burke Evans, Galveston, is program chairman for the 1961 meeting.

The complete program is as follows:

Morning Session Solarium, Buccaneer Hotel

- 9:30 a.m. Pollicization of the Index Finger
R. A. Murray, M.D., Temple
- 9:50 a.m. Discussion from the floor
- 10:00 a.m. Avulsion Fractures of the Fibula, a Cause of Ankle Instability
John J. Brennan, Col., MC,
William Beaumont General
Hospital, El Paso
- 10:20 a.m. Discussion
Morton H. Leonard, M.D., El Paso
- 10:30 a.m. The Treatment of Chronic Stasis
Ulcer
Harvey R. Butcher, M.D.,
St. Louis
- 11:00 a.m. Coffee
- 11:20 a.m. Experimental Production of
Pseudarthrosis in Dog Femurs
Bruce M. Cameron, M.D.,
Houston
- 11:40 a.m. Discussion
G. W. N. Eggers, M.D., Galveston

- 11:50 a.m. Nonunion of Long Bones
Edwin F. Cave, M.D., Boston
- 12:20 p.m. Moderator
William H. Ainsworth, M.D.,
Galveston
- 12:30 p.m. Luncheon and Business Meeting
Buccaneer Club
Afternoon Session
Solarium, Buccaneer Hotel
- 2:00 p.m. President's Address
I. S. McReynolds, M.D., Houston
- 2:30 p.m. The Stiff and Painful Shoulder
T. B. Quigley, M.D., Boston
- 3:00 p.m. Experience with Anterior Cervical
Spine Fusion
C. F. Gregory, M.D., and
W. Kemp Clark, M.D., Dallas
- 3:20 p.m. Discussion
David M. Cameron, M.D., El Paso
- 3:30 p.m. Herniated Lumbar Intervertebral
Discs
P. L. Day, M.D., San Antonio
- 3:50 p.m. Discussion
Frank F. Parrish, M.D., Houston
- 4:00 p.m. Movie
Spine Instrumentation in the
Management of Scoliosis
Paul R. Harrington, M.D.,
Houston
- 4:20 p.m. Discussion
Experience with Spine
Instrumentation
Paul R. Harrington, M.D.,
Houston
- 4:40 p.m. Moderator
Thomas O. Shindler, M.D.,
Houston

A cocktail party for members of the Texas Orthopaedic Association will be held at the Artillery Club, 31st and Avenue O, from six to eight o'clock on Sunday, April 23.

Chemotherapy in Current Psychiatry

RUDOLPH KIEVE, M.D., F.A.P.A., *Santa Fe*

When I say to you that the business of psychiatric treatment is the modification of abnormal or otherwise offensive human behaviour in the direction of socially more acceptable enduring patterns, both in the interest of the afflicted individual and his society, I have also included the field of criminal behaviour, and have done so with conviction. But for the limited purpose of this paper I wish you to exclude the latter area in order to preserve the more conventional framework of psychiatry as dealing with the "mentally ill," however artificial such a limitation may strike you.

In brief, psychiatry wishes to beneficially modify the behaviour of the mentally ill at the same time as it tries to open to the patient new avenues of genuine satisfaction and gratification hitherto closed to him from within and unavailable from without; having either been unacceptable subjectively or actually incompatible with the ruling mores of his society. It is not sufficiently realized by the non-psychiatric public to what extraordinary extent the mentally and emotionally ill are characterized by their limited ability or outright inability to experience genuine satisfactions of their inner cravings and desires, be they designated as normal or pathological. This is the single and the most significant criterion which cuts across all diagnostic and phenomenological categories of all the disorders which are the concern of psychiatry.

Genuine satisfactions can only be experienced when anxiety concerning their obtainability or subjective or social acceptability is of relatively low intensity in the individual in question. Beyond a certain degree, anxiety calls for all manner of

intra- and inter-psychic defense maneuvers which generally speaking are less and less concerned with the securing of satisfaction, and more and more with the avoidance of anxiety. Thus satisfaction becomes increasingly sacrificed to the more urgent control of anxiety.

Early Times

Since the earliest times, man has searched diligently for means social and chemical through whose application satisfaction and anxiety could be kept in a fairly agreeable state of balance which would insure maximum satisfaction, compatible with minimum anxiety. But only very recently has anxiety been identified as that intra-psychic event through whose activation social acceptability of a person and his conduct are maintained.

As Harry Stack Sullivan put it simply and succinctly, anxiety rises in us the instant we feel a loss of self-esteem through the actual or imagined decline of respect for us by a significant person in our immediate environment.

Herb Magic

We shall not enumerate the many social and alimentary devices for the temporary reduction of anxiety (or its temporary avoidance) save for one, familiar to all of us, alcohol. We shall pass quickly over the substances from the early days of herb magic and herb medicine to the yesterday of scientific pharmacology; plant concoctions, poppy-juice, hashish, bromides, barbiturates, refined narcotics, hypnotics, anodynes and analgesics. They

were and are either too broad or too narrow in their action, not to mention the danger common to almost all, namely addiction.

They induce either intoxication and sleep successively, or they so modify our sensory and intellectual performance and feeling tone that they distort our perception of and relation with conventional reality. Thus they interfere detrimentally with meaningful and rational communication and interaction. Or they do both. To whatever degree they reduce anxiety, to approximately the same degree do they interfere with the sharing of meaning. And since socially acceptable behaviour is completely contingent upon the shared meaning of agreed upon symbols of communication, these technics for the reduction of anxiety preclude the consistent exercise of socially acceptable and compatible behaviour.

Anxiety Control

Signal developments in bio-chemistry and neurophysiology of the past 20 years have recently led to the discovery of whole groups of related and unrelated compounds, all of which appear to have one thing in common. They control anxiety and its psychic analogues such as rage and depression and its many other border-transformations to a degree which permits a substantial decrease of anxiety and the malignant reaction formations against it.

Once, for example, thought disorders, feeling distortions, delusions and hallucinations have ceased or lost much of their subjective significance, the capacity for meaningful communication and socially acceptable behaviour, and to a lesser degree, at least at the moment, access to genuine satisfactions is opening up for the patient.

These chemically induced changes take place with a minimum of intellectual and sensory distortions, although none of the new substances are at this time completely free from some somniferous and intoxicating side effects, apart from two other sets of undesirable consequences: first of all, a certain very limited and unpredictable potential toxic selectivity for the bone marrow's blood-building components and for some of the various functions of the liver and several other organs; and, secondly, they are occasionally responsible for a series of related neurological malfunctions of the pyramidal tract of the spinal cord which are subsumed under the term of Parkinsonian and akinetic signs.

However, both the organ-toxic and the Parkinsonian repercussions are on the whole either pre-

ventable or curable, transient in nature, non-fatal and compatible with continued treatment or, after interruption and remedial action, its prompt resumption.

Tranquilizers and anti-depressants, selectively or in combination, are effective in some degree at all age levels and in most instances of the three major categories of mental and emotional disorders: the neuroses, the schizophrenic psychoses and the manic-depressive group of psychic malfunction at the core of all of which there occurs the generation of excessive anxiety combined with the person's specific way of response to this more or less unbearable sensation.

Last but not least, the use of these substances can often lay the groundwork for a deeper and more lasting benign change of the total personality through the collaborative transaction between patient and physician, generally known as psychotherapy.

Not Curative

Let it be clearly stated then that tranquilizers and anti-depressants are, in and by themselves, not curative since they do not attack the anxiety-overproducing susceptibilities of the individual but prevent only the emergence and spread of the anxiety itself. The source of pathological anxiety, if at present it can be touched at all, can only be reached by way of meaningful emotional and intellectual communication between a patient and his physician. And this is all too often hampered or altogether blocked by the patient's unbearable anxiety.

Wherever this is the case, simple logic points out that only substances or other devices which block anxiety totally or in part are capable of opening up the possibility of meaningful communication and hence, of intra- and inter-personal changes for the better.

Therefore, we must distinguish improvement which takes place exclusively on the basis of continuous or periodic medication, which we may call step one; from step two, which is the promise of permanent modification of the ailing personality for the better due to progressively improving communications between the patient and his environment, and only initiated by the use of these substances.

At present we have evidence of the overwhelmingly frequent occurrence of step one even in cases of extremely long standing and with hitherto unfavorable prognosis. As for step two, much of the

available data indicate the great probability that permanent cures may be facilitated through combined drug- and psycho-therapy.

Many Confined

Consider that more than one thousand persons out of any Western population of approximately one million is or at least until recently has been confined at any given moment to a closed institutional setting and that a variously estimated but highly significant fraction of those confined would spend from months to years, to their full lifetime, behind walls; withdrawn from their families, their communities, and the economic, social and political obligations and prerogatives of their fellow citizens.

The reason for such a state of affairs was that psychiatry had not much to offer by way of therapy despite the many therapeutic devices with which it had been experimenting with limited success in a very limited pre-selected group of patients, those namely who even without treatment had the best outlook for recovery.

Take this into account and contrast it with the widespread effectiveness of the new substances, in all varieties and stages of mental and emotional disorder. Can you then disagree with me when I call the current developments a true revolution in psychiatry?

But since I myself am not a revolutionary, it behooves me to hint to you briefly the actual liabilities and potential dangers of this chemical revolution as they have come into my awareness. I can offer you nothing more than the general basis for my apprehensions as to how this turn of events might affect detrimentally the private and the institutional practice of psychiatry, the training of psychiatrists in the future, and the place of psychiatry within the general structure of medicine.

You may be startled to hear me say that medicine as a whole has contributed astonishingly little to man's understanding of himself however much it has given to his comfort. A moment's reflection will persuade you why this is true.

A physician is a person essentially interested in emergency intervention in behalf of another person in danger and discomfort. A physician, however intelligent and gifted, is primarily a man of action. And a man of action is essentially non-philosophical. The only people, however, who have made large-scale contributions to man's understanding of himself are the philosophers and,

to a lesser degree, their latter-day successors, the social scientists and the bona-fide psychologists.

Therapeutically Impotent

Psychiatry, whether aware of it or not, has for two centuries had the benefit of being therapeutically pretty nearly impotent.

In consequence it has continuously attracted people who were more interested in the minute observation, meticulous description and conscientious classification of the numberless varieties of human aberrative behaviour and their manifold factual and fancied phenomenological relations with each other than in any modification. The phenomenology of psychopathology as initiated by Kraepelin in the latter third of the 19th century and climaxed by Jaspers in the first third of the 20th, are the delight of any mind which savours sophisticated discrimination.

This meticulous and perspicacious classification alone was without any therapeutic relevancy and devoid of the network of meaningful relatedness which could have illuminated it from within. Only Sigmund Freud's subsequent system of symbolic interpretation of hitherto bizarre and apparently chaotic and meaningless manifestations of behaviour made the whole of psychopathology incandescent with meaning, actual or potential. It is to Freud's credit that he stressed psycho-analysis as far better suited to the study of human behaviour than to the remedy of man's misbehaviour.

Understanding

Since his original formulations, the systematic understanding of psychology and psychopathology has made tremendous strides without, however, having led, even indirectly, to really effective means and ways of curing those severe mental illnesses whose resistance against effective therapy lay precisely in the intensity of the anxiety at their core; an anxiety which was frequently intensified by an attempt at psycho-therapeutic intervention.

Thus psychiatry became, historically speaking, a borderland between remedial intervention and philosophical contemplation. With the help of the new substances, however, it is suddenly now in a position of treating mad persons successfully, and this through intervention by those of its practitioners who may not have even the faintest notion of the nature and the deepest meaning of the methods in their patients' madness.

It is further conceivable that psychiatry may fall back into the a-psychological and anti-psy-

chological research bias which would like to regurgitate Freud while swallowing an assortment of pills. They would like to believe and have recently said: Here we have proof positive that mental illness is caused by chemical and metabolic derailments. In fact, all one may say legitimately is that "the new substances furnish a chemical block against the excessive production of anxiety which interferes with meaningful interpersonal communication and interaction."

Yet this anxiety itself is the result of old and deep misunderstandings in interpersonal relations themselves. The old derisive condescension that psychiatry is not a legitimate branch of medicine

because it has no medicines worth the name to give, is no longer appropriate. Psychiatry, if this be important to you, is now a very legitimate branch of medicine: it has many and many very effective medicines to give.

But if medicine is to remain forever nothing more than the art of healing those whom it fails to understand of ailments which it does not comprehend, then it would seem a very dubious honor and pleasure indeed for the psychiatrist to be returned, as the prodigal son, into the outstretched arms of his confreres.

Post Office Box 2115

BOOKS

LIGHT COAGULATION by Gerd

Meyer-Schwickerath, M.D., translated from the German by Stephen M. Drance, M.B., F.R.C.S. (Eng), 114 pages, \$9.50, 1960. The C. V. Mosby Co., St. Louis, Mo.

This is a brief, readable, and very interesting book about the treatment of eye disorders by tissue burning, using a powerful focused light, very much as a boy uses a magnifying glass to focus sunlight and start a fire in paper.

This book is written by the originator of the method, and he cites a number of his cases to illustrate the treatment of degenerations and detachments of the retina, as well as tumors of the eye. Most of these conditions are also treated by other means, but this method seems better in some situations, particularly in cases where one eye has been lost already.

The apparatus used by the author is quite expensive, in part because it makes use of an artificial source of light. In this region of the world a similar device might be used with sunlight as the source of energy. Perhaps a college physics department might construct such a device.

Much of the appeal of this method of treatment is that it appears to be little more complicated than the use of the ophthalmoscope, the handy and constant companion of the eye physician and surgeon.

BRADFORD HARDIE, M.D.
El Paso

TETANUS

OWEN C. TAYLOR, JR., M.D.
HENRY L. WALL, M.D.
Artesia, N. M.

Report of a Successfully Treated Case Resulting from Endometritis Following Criminal Abortion

The sporadic incidence of Tetanus in the United States has not relieved the physician of the responsibility of the care of this difficult and challenging disease. In the state of New Mexico, 10 cases have been reported since 1949, eight of these were fatal! The following case is the only one known to have occurred in this farm and oil industrial community during the past 10 years. In view of the large number of farm and oil field accidents seen, it is interesting that this case resulted from an infection site which most of us ignore, as regards tetanus prophylaxis. It is the purpose of this paper to alert area physicians to this possible complication of criminal abortion.

Case Report:

A 26-year-old obese Spanish woman, wife of a farm laborer, was seen in the emergency room of the Artesia General Hospital on March 16, 1960, with the history of trismus of two days duration. She also complained of pain in the back of neck and headache. Her husband stated she had miscarried 10 days previously, passing a lot of tissue and blood, and had been sick all week. She had been treated by a local osteopathic physician for two days prior to her visit to Artesia General Hospital and had received two shots for "muscle pain and nervousness." She stated she had been sick with the flu during the interim between her miscarriage and the 16th of March.

This illness was described as fever, generalized muscle aches and pains. The patient and her husband specifically denied, at this time, that any measures had been taken to initiate the abortion. One week later, when the patient was in an extremely critical state, her husband admitted that she had seen an abortionist in another city on February 28, 1960.

For one week there was only mild cramps and slight bleeding. On March 6th, the patient passed a large quantity of tissue and blood, and this continued through March 10, 1960. A purulent vaginal discharge followed, which was present on admission. Patient was a gravida V, para IV, A I, oldest child, age eight, youngest, age one. Her past history was noncontributory.

Physical Examination

Physical examination revealed: Temp. 98.6, pulse 80, respirations 20, blood pressure 126/70. Trismus was pronounced, there was moderate nuchal rigidity and generalized hyperactive reflexes. Examination of the skin revealed no evidence of infected wounds or scars from healed wounds.

Examination of the chest revealed the lungs to be clear and the respiratory rate and rhythm to be normal. There was a normal sinus rhythm, the heart was not enlarged, and no murmurs were heard. Palpation of the abdomen revealed no muscle spasm. There was mild tenderness and muscle guarding in the suprapubic area. Vaginal examination revealed an enlarged boggy uterus, which was relatively non-tender. There was some tenderness in the adnexal areas, and on inspection a very foul brownish purulent discharge was noted in the vaginal vault and emanation from the cervical canal.

An aspirate sample of the discharge was obtained for smears and culture. There was no active bleeding. The hemogram revealed white blood count of 8,800; with 63 seg, 2 stab, 35 lymphs. The red blood cell count was 3.0 million and the hemoglobin 9.8 grams. Catherized urine showed evidences of mild pyuria without albuminuria.

The patient was admitted to the hospital and given 75 mgm. Pomazine hydrochloride for sedation, and one gm. of Methocarbomal* slowly intravenously. Tetanus antitoxin skin test was applied. Within a few hours, the patient was able to open her mouth a little wider and swallow liquids and seemed to be slightly improved. An 18 gauge polyethylene tube was inserted into the right saphenous vein at the ankle, under local anesthesia, for intravenous therapy and maintenance fluids.

On March 17, 1960, a spinal tap was done which revealed no increase in the fluid pressure. Spinal fluid was clear and there were no cells noted. The spinal fluid protein was 25 mgm. per cent. Urine Sulkowitch was positive four plus. Serum calcium was 8.2 mgm. per cent. Although the smears from the purulent discharge did not reveal presence of Clostridia, Tetanus antitoxin was started—40,000 unite was given intravenously by drip and 40,000 units given intramuscularly in divided doses at six-hour intervals. Methocarbomal was continued, one gram every twelve hours intravenously. Penicillin was given 1.2 million units daily. Oxytetracycline was given one gram every 24 hours intravenously. The patient also received 500 cc whole blood.

Picture Clear

On March 18, 1960, the clinical picture of tetanus was full blown with opisthotonos, tonic seizures of all extremities, nuchal rigidity, trismus and mental clarity. Temperature had continued to be within normal limits, but the pulse rate was increased. Emergency tracheotomy was performed following a sudden and near fatal laryngospasm. A continuous mist of O₂ and Alevaire was used with an improvised tracheotomy collar to effect better respiratory exchange and to aid in keeping the trachea clear of secretions. Methocarbomal, in doses of one gram, was given intravenously every six hours to control muscle spasms and Phenobarbital was given intramuscularly for sedation.

The complication of phlebitis in both lower extremities prompted the insertion of a Levine tube for more ideal fluid and nutritional maintenance. The pulse rate and respiratory rate returned to more normal levels, but for the next five days the patient remained in a very critical condition, requiring constant and vigilant nursing care.

On March 24, the patient seemed to be much more

relaxed, but continued to have muscle spasms and appeared to be in a coma. Leukocyte count was slightly elevated and it was felt the patient had respiratory tract infection. Penicillin and Streptomycin was begun and within two days the patient's clinical condition had improved slightly. The suctioned aspirate was not purulent and the patient's temperature was normal.

Culture Reports

On the 27th of March, the culture reports were received from the State Laboratory, which revealed organisms present to be: 1. *Sphaerophorus necrophorus*, and 2. Genus *Lactobacillus*. Genus *Clostridium* was not isolated from the specimen. It was felt the continuing coma represented central nervous system toxic changes with edema and probable other inflammatory changes, so it was decided to start Corticoid therapy. Hydrocortisone was given intramuscularly, 20 mgm. every eight hours for five days, and then gradually discontinued over another 10-day period.

On March 29, after 40 mgm. Hydrocortisone, the patient did seem to be a little more alert. The following day the patient was definitely more alert and opened her eyes on request. On March 31, her expression was normal, and there was voluntary movement of her hands. Gradual progressive improvement was then noted and the patient was sitting on the edge of the bed dangling her feet on the 6th of April, and was up walking the 14th of April. She was discharged home the 23rd of April, improved. She was seen for follow-up visits the 28th of April and the 13th of May. She described passage of a single mass of tissue associated with severe uterine cramps, and only scant bleeding on May 1, 1960.

Pelvic examination May 13, 1960, revealed no discharge, the uterus was non tender and firm. There were no adnexal masses noted. She was discharged on that date as cured.

Discussion:

The care of a patient with severe tetanus presents the attending physicians and the facilities of a community hospital with urgent and challenging responsibility. We certainly would have appreciated a more optimum state of preparedness, particularly as regards knowledge of the disease and its attending complications. Fortunately, there have been several detailed reports in the recent medical literature outlining the general care

*We used the brand of methocarbomal, trade named Robaxin, by the A. H. Robins Co.

of the patient with severe tetanus. The basic therapeutic program can be summarized as follows:

1. To neutralize the uncombined toxin.
2. To eliminate foci of residual *Clostridium tetani* infections.
3. To support the patient throughout this self limited disease; maintain nutrition, fluid balance and an adequate airway.²
4. To control the life endangering and painful muscle spasms.

We found that as in the care of any disease process for which there is no specific cure, these principles were useful only as a guide. The regimen of care changed from day to day, with always a generous amount of "trial and error." However, we felt the general outcome of this case hinged on the extensive and vigilant nursing care obtained. The amount and manner of administration of tetanus antitoxin was a composite "middle of the road" approach influenced by availability of vaccine and a day's delay in making a definite diagnosis. There was no evidence of immediate or delayed serum reaction.

The conservative (some may think radical) attitude of leaving infected secundines "in utero" without surgical curettment or medical irrigation proved successful in this case. The patient received large doses of penicillin, and oxytetracycline, both drugs that have been shown to have some influence on the growth of *Clostridia*.

This patient nearly succumbed to a sudden laryngospasm which occurred without warning. We certainly would advise adhering to the general opinion that tracheotomy should be done as soon as the diagnosis of severe tetanus is made.³ The use of nebulized mucolytic detergent was found to be helpful but it was necessary to use saline and Zepherin instillations directly into the tracheotomy tube to remove the tenacious thick bronchial secretions.

The use of methocarbomal afforded adequate muscle relaxation to our satisfaction, and phenobarbital gave adequate sedation. We were unable to determine if these drugs were contributory to the comatose state observed. There were no immediate drug reactions noted.

The "guard with my life" secrecy inhibited by the criminally aborted was certainly demonstrated in this case. Only through the efforts of an interested employer and persistent questioning, was the actual history obtained from the husband of this critically ill patient. As regards this case, the exact history mattered little as far as we were concerned, since the disease process was manifest on admission. However, had the knowledge of the complete history of this illness, plus the recognition of this possible complication of criminal abortion been available to the physician who first saw the patient, the eventual recovery may not have remained in doubt for such a long period of time.

Summary:

A case of successfully treated tetanus is reported. This case resulted from a uterine infection following criminal abortion. The problems with the management of this infrequent, but ever present, threatening disease are outlined. The possible complication of tetanus occurring in an infected criminal abortion should be considered.

Fourth and Washington.

Bibliography

1. Personal Communication, Division of Preventative Medicine, New Mexico Department of Public Health, Santa Fe, New Mexico, August (1960).
2. Chaiken, Bernard H., Tansey, W. A., and Jacobs, A. L.; *The Journal of the Medical Society of New Jersey*, 232, May (1959).
3. Stack, Maria and Ayvazian, John; *The Medical Clinics of North America*, 763, May (1957).
4. Cecil, R. L., and Loeb, R. F.; *Textbook of Medicine*, W. B. Saunders Company, Philadelphia (1959).
5. Crandell, D. LeRoy and Whitcher, Charles E., *Journal of American Medical Association*, 15-19, January 2 (1960).
6. Christenson, N. A., and Thruber, D. L.; *Practitioners Staff Meeting, Mayo Clinic*, 32:146-158, April 3 (1957).
7. Annich, N. W., and Alexander, E. R.; *American Journal of Public Health*, 47:1493-1501, December (1957).
8. Perlstein, M. A.; *Journal of American Medical Association*, 1902-1908, August 15 (1959).
9. Creech, O., Glover, A., and Ochsner, A., *Annals of Surgery*, 146:369 (1957).
10. Forbes, G. B., and Huld, M.; *American Journal of Medicine*, 18:947 (1955).



Dr. Babey

Aphoristic Quotes

(Continued)

Collected by ANDREW M BABEY, M.D., *Las Cruces, N. M.*

From Medical Grand Rounds, edited by Robert McCombs, M.D., Boston, in the Bulletin of Tufts-New England Medical Center.

Benign Paroxysmal Peritonitis

5. Benign paroxysmal peritonitis is a rare disorder characterized by recurrent acute episodes of abdominal pain, chills, fever, tenderness, and leukocytosis occurring at intervals over many years. Between attacks the patient is well. Purpura may sometimes be evident during the attacks, indicating a possible relationship to Henoch-Schoenlein's disease. This condition probably occurs as the development of some obscure allergic mechanism. It may therefore respond promptly to ACTH or cortisone.

6. The so called "dumping syndrome" is not uncommon after gastrectomy, and it may occur in nervous people with intact gastrointestinal tracts. The symptoms occur immediately after eating and consist of feelings of weakness, sweating, and abdominal distress followed by explosive diarrhea. These apparently develop as the result of sudden distention of the small bowel with hypertonic food substances which then pull fluid from the blood into the bowel and cause further distention of the bowel.

Banthine or atropine may be helpful in the management of this syndrome, and it is advisable to prescribe a recumbent position after meals. Meals should be dry and fluids given between meals. Rarely, after gastrectomy, a patient may develop severe nutritional deficiencies, macrocytic anemia, hypoproteinemia, diarrhea with steatorrhea, and hypocalcemia (the Sprue syndrome). Some of the means used to combat this syndrome are liver extract, vitamin B₁₂, and detergents to emulsify the fats.

7. Duodenal ulcers may occur in children but are

not commonly diagnosed. In about one third of the cases the ulcers are apparently asymptomatic and are discovered only when complications occur, perforation being the most common complication. In infants, hemorrhage is almost as common. Most children who have ulcers show an unusually high level of gastric acidity. The incidence of peptic ulcer in children and adults is high in those who have congenital pyloric stenosis; and the incidence of gastrointestinal disturbances in the immediate family of these patients is also unusually high.

8. Hyperlipemia is a condition in which neutral fat is increased in the serum. It is always associated with hyperchlolesteremia. In the primary or idiopathic type of hyperlipemia there may be some disturbance that blocks the normal passage of neutral fat through the capillaries. Some patients may have a slight glycosuria. This type is benefited by a low fat diet. Secondary lipemia sometimes occurs in diabetes, in chronic liver, biliary tract, or pancreatic disease, lipoid nephrosis, and von Gierke's disease. The hyperlipemia associated with diabetes mellitus does not clear completely until insulin is given; it rarely persists if it is due to chronic inflammatory pancreatic disease.

Metastatic Cancer of the Liver

9. In metastatic cancer of the liver, the occasional development of jaundice and other abnormalities of liver function may confuse the clinical picture with that of primary inflammatory liver disease. Likewise, in obstructive jaundice of long

duration a complicating aspect may be the occurrence of hepatocellular damage with resulting changes in liver function tests.

10. (Confirmation of the diagnosis of regional enteritis often requires careful x-ray examination of the small bowel. At times this examination may be facilitated by examining the patient when he has a full bladder, when some of the loops of ileum are raised out of the pelvis.

In women with this disease pregnancy may exert a beneficial influence, but in the postpartum period exacerbations are likely to occur.) There is a division of opinion regarding the advisability of surgery as a method of treatment unless the disease is well localized. The recurrence rate after surgery is quite high. A number of cases of regional enteritis have now been treated with ACTH or cortisone with good results in the great majority.

The disease is not usually eradicated by hormone therapy but diarrhea usually decreases and appetite increases, with resulting weight gain. Remissions may last several months after treatment is withdrawn but maintenance therapy may be necessary. In advanced cases of regional enteritis there may be a macrocytic type of anemia that is responsive to therapy with liver extract.

Marked Weight Loss

11. In an elderly person the history of marked weight loss that cannot be explained on the basis of gastrointestinal or pulmonary malignancy should call to mind the following possibilities: hyperthyroidism, endogenous depression, carcinoma of the body or tail of the pancreas, subacute bacterial endocarditis, diabetes mellitus, sprue, Addison's disease, and hidden chronic tuberculosis. Some elderly individuals lose weight merely from severe arteriosclerosis, and others, from advanced emphysema.

12. It is not always possible to demonstrate the presence of esophageal varices by an esophagram. One method of demonstrating this source of gastrointestinal bleeding is to have the patient swallow a string which is then left in place for about 12 hours. If blood is noted on the string after it is removed, the site of bleeding may be judged by noting the distance from the mouth end of the string to the blood. When bleeding occurs from esophageal varices in portal hypertension it is

usually massive, but in some instances there will be only a slow seepage of blood, noted by positive tests for occult blood in the stools and a hypochromic anemia that does not respond to therapy with iron.

13. Steatorrhea is accompanied by hypocalcemia because of poor absorption of calcium and vitamin D and by hypokaliemia because of excess loss of potassium salts from the intestinal tract. These electrolyte disturbances may in turn cause rather marked alterations in the electrocardiogram.

Enterococcal Infections

14. Enterococcal infections are numbered among the most difficult to treat because of the resistance of the organism to antibiotics. Although penicillin alone in massive doses of up to 10 billion units a day may be effective in small percentage of systemic infections caused by this organism, combined penicillin and streptomycin therapy is recommended on the basis of experiments in vitro that show a synergistic action of the two drugs against the enterococcus.

15. Amebiasis is discovered with a frequency that varies in direct proportion to the diligence with which stool examinations are made. Stools should be examined before castor oil or barium is given because small droplets of these substances may look something like amebic cysts.

At times the diagnosis of amebiasis may be suggested by an astute radiologist who notes a moderately deformed and tender cecum during fluoroscopic examination of the colon. Many new methods of treatment have recently been introduced.

Aureomycin, terramycin, bacitracin, and chloroquine (an antimalarial compound) are roughly as effective as, but less toxic than, the older amebicides such as emetine, diodoquin, and carbarsone.

A new compound, bismuth glycolyl arsanilate (milibis) is considered to be more potent than compounds previously available and is at the same time virtually nontoxic. When a case of amebiasis is found and treated all members of the patient's immediate family should be examined for other possible carriers who must also be treated in order to prevent reinfection.

Clinical Pathological Conference

R. E. Thomason General Hospital, El Paso

Case No. 1487, November 17, 1960

F. P. BORNSTEIN, M.D., *Editor*

Presentation of case by NATHAN KLEBAN, M.D.

History: Dr. T. S. Martin

This male school teacher was first seen 12-26-57, when he was 68 years old, because of chest pain on exercise. His past history was negative except for back injury 35 years ago. Since then backache on standing for long periods.

As to family history, his father had died at the age of 59 of pneumonia, his mother at the age of 62 of heart disease, and two siblings had died of coronary thrombosis at ages between 65 and 70. The patient believed that his mother and these two siblings were hypertensive.

Substernal pain, with radiation to the right arm, had been occurring on walking for three years. This had progressed to the point where two blocks, or at the most three blocks, would produce the pain. This tolerance had remained the same during the past year. He would get moderately short of breath just before the pain access. He had noted a gradual reduction in energy over the past few years.

He had no pain at rest, no orthopnea, and no

palpitation. He had noted a slight ankle edema, intermittently for one year.

The inventory of symptoms added nothing except for two years he had been having a nocturia, now three to five times a night, and a slowing of the urinary stream. His weight had been steady for years.

He was married; had never had any children. He took no alcohol, tobacco, or caffeine. He had been taking no medication except for a multivitamin. He stated that his only bad habit was excessive worrying.

Physical Examination:

Physical examination revealed a heavy-set male, slow in movement and slow in thought, who looked about 70 years of age. Ht. 5'8", wt. 174 pounds, B.P. 160/90, pulse 70 with occasional extra beats. Positive physical findings included a loud and ringing aortic second sound, a short basal systolic murmur, heard best in the aortic distribution—no thrill and not harsh; liver edge felt one finger-breadth below the costal margin at a neutral phase of respiration, and prostate enlarged, smooth, firm, and symmetrical.

The chest x-ray was read as normal, except for some old calcification. The EKG was normal except for occasional premature ventricular systoles, a low T-wave in V-6, and a QRS duration of 0.10

seconds. Routine blood counts and urinalysis were normal. The BUN was 10 mg. per cent, cholesterol 209 mg. per cent, sugar 82 mg. per cent, PBI was 5.0 mcgm. per cent.

The patient was placed on a reducing diet, Rauwolfia, and PETN.

He was seen subsequently in January and August, 1958. During those eight months he had reduced by only six pounds, but acquired a nearly pain-free status; in fact, he had had no angina for several months according to his statement in August. His B. P. in August was 150/90.

Medication Stopped

He was not seen again until mid-May, 1960. He had stopped all medication in the latter part of 1958. He had occasional pain on exercise during 1959 and this began to come on more and more frequently during the late winter of 1959-60. For two or three months, he had been progressively more fatiguable and for 10 days had been having chest pain with arm radiation frequently at rest. Three hours before his admission a much more severe chest pain with radiation of both arms had begun. Vomiting had followed. His local physician in Ysleta was summoned. He was sent directly to Southwestern General Hospital by ambulance.

On admission to the hospital he appeared critically ill. He was moaning with pain. The skin was cold and damp. He appeared very pallid. B. P. was 60/40. Moist rales were present in both lung bases. Liver edge was three finger-breadths below the costal margin. The EKG was classical for acute posterior myocardial infarction. The laboratory reported seven gms. of Hemoglobin and a WBC of 7,900. Examination of the blood smear showed that 75 per cent of the white blood corpuscles were myeloblasts or myelocytes and about 15 per cent appeared to be monocytes.

Diagnoses were: Acute posterior myocardial infarction with left heart failure, complicating moderately severe anemia due to an acute monocytic leukemia of the Naegeli type. He was treated with Purinethol, digitalis, blood transfusions, diuretics, Peritrate, and Quinidine. After a precarious first few days, he compensated and became

free of pain. During his six weeks at bed-rest in the hospital the cardiogram slowly evolved towards normal. He required one or two pints of blood every seven to 10 days in order to keep his hemoglobin above nine gm., a value below which frequent chest pain would appear. A bone marrow smear confirmed the diagnosis which was made from the peripheral blood.

During the fourth and fifth week a raised red blotchy eruption appeared on the face and neck, particularly the left side, and scattered oval lavender colored maculae about one to two mm in diameter, appeared in the skin of the abdomen and lower thorax. These were thought to be dermal manifestations of leukemia and disappeared when steroid therapy was added to the Purinethol. At the time the steroids were started, the peripheral blood had shown a little improvement. The percentage of blasts had declined but the total circulating blast count was higher than on admission, as the WBC rose to around 12,000. After two weeks of Prednisone, however, the WBC returned to around 7,000 with 50 to 60 per cent blasts.

He was discharged from SWGH on 7-1-60, still on prednisone, 10 mgs. q.i.d., Peritrate; Purinethol; Phenobarbital; Digitalis, and Diuril. A severe stomatitis, which had begun at the end of the third week at the hospital, had slowly healed following reduction in the dose of Purinethol. At discharge the liver was scarcely palpable. The spleen had never been palpable, nor had there been any enlargement of lymph nodes.

Transfusions

On July 12, he received 1000 cc. of blood and 10 days later 1500 cc. of blood, with relief of increasing chest pain, at rest, on both occasions. The hemoglobin prior to each of these two groups of transfusions was between six and seven grams. Platelet count just before the second group of transfusions was 70,000 and the WBC about 7,000 with 70 per cent blasts or promyelocytes.

He was seen 8-1-60 in congestive heart failure with moist rales in both lung bases, the liver edge down to three finger-breadths below the costal margin and 3+ pitting edema of both legs. The

B. P. was 110/60, pulse 70, and temperature 100.2. Hemoglobin was just above seven gms. The WBC was 12,500 with 97 per cent very immature cells. The platelet count was 30,000. Purinethol was restored to a dose of 200 mgs. daily, Prednisone being continued at 5 mgs. q.i.d. The next day he was again hospitalized, this time at Thomason General Hospital, with increasingly persistent pain in the anterior chest with arm radiation.

On admission to Thomason General Hospital on 8-2-60 the B. P. was 100/60, pulse 84, temperature 98.2 and he was noted to have marked mucosal pallor, a shallow ulcer of the tongue border, distended external jugular veins, moist basal rales, and a grade II precordial systolic murmur. The sub-maxillary lymph nodes were enlarged. The liver was down 5 cm and firm and tender. Spleen was not felt. Pitting edema of the ankles and a tender left testis was noted. Pin-head sized purpuric spots, especially over the abdomen, were again seen. The patient was alert and quiet.

Urinalysis was normal except for 1+ albumin. The WBC was reported as 10,000 with one per cent segs., one per cent stabs and 98 per cent immature cells. Hemoglobin 7.4 gm and hematocrit 22 per cent, BUN was 21.5 mg. per cent.

The EKG showed, in addition to the residue of the old posterior infarction and digitalis effect, some signs of lateral myocardial ischemia.

Complete Rest

Diuretics, Demerol, and sedation, complete bed rest and transfusions with packed red cells were added to the treatment current at the time of admission. On 8-6-60, Purinethol was discontinued, Prednisone reduced from 30 mg. per day to 20 mg. per day and Amnioplerin introduced, starting with 2 mg. q.i.d. The prothrombin time was 54 per cent.

On 8-8-60, after three units of packed red cells since admission the BUN was 17 per cent mg., HCT. was 29 per cent, WBC 29,300, the smear almost devoid of normal leukocytes, the predominant form being extremely immature. Attacks of chest pain had ceased after the second unit of blood, the lungs were clear, edema gone and the food intake fairly good. But he was soon reduced

to fluids as sores of mouth and lips increased. There was increasing purpura and he was having a maximum temperature between 100 and 102 daily. On 8-14-60 a small amount of oral bleeding occurred and that night anterior chest pain recurred, with sharp drop in B. P. The shock state, with coma, T. 104R, persisted till death occurred the following A.M.

Laboratory Findings: (Last Admission)

The hemoglobin varied between seven and 9.5 grams during the stay of the patient. The WBC count varied between 10,000 and 24,000. Dr. Don expressed the following opinion about it on August 9: "Morphology of the peripheral blood reveals an almost complete absence of all normal cells. The predominant cell is an extremely immature blast which I still believe has the characteristics of the lymphocytic series."

Clinical Discussion: Dr. Nathan Kleban

Unless Dr. Bornstein springs a surprise, which he is apt to do, the nature of this protocol is such that this really will be more of a combined medical and pathological discussion than a usual CPC, because we are given what, on the surface at least, seem to be the obvious diagnoses in this patient. For me this is a continuation of something of which I know very little—leukemia—which we discussed previously on July 18, 1957, when we had an individual with myelofibrosis and myelogenous leukemia.

Although this patient lived his biblical and insurance actuarial allotted span of 70 years, he did have, or was afflicted with, two fatal diseases: coronary artery disease and acute leukemia. This man, who was a school teacher, married but childless, had two brothers who died of coronary artery disease between the ages of 65 and 70, had a mother who died of heart disease at age 62, and both she as well as his brothers were supposed to have had hypertension.

His father is said to have died at age 59 of pneumonia. For the first 65 years of his life he was in good health except for backache following injury at about age 33. He was troubled only by this and by excessive worrying. He neither smoked

nor drank alcohol or coffee. He took multivitamins. William Dock, of the state university of New York, in the J.A.M.A. of May 19, 1959, asked this question: "Why are men's coronary arteries so sclerotic?" He answered the question by stating that the fault lies not in the sex, but in the masculine love for rich foods, alcohol and tobacco.

This patient could plead innocent of two of William Dock's three counts. Sub-sternal pain radiating to his right arm produced by walking gave him something additional to worry about at the age of 65. After two years the pain had progressed to the extent that he was able to walk no more than two or three blocks without resting. For the next year this, what seems to be angina pectoris, was stationary. The protocol states that moderate restlessness preceded the attack of chest pain.

Diminished Energy

The patient noted diminished energy without any weight change, for several years. Inconstant edema of the ankles was noted for one year. For two years he had symptoms of prostatic obstruction with slowing of urinary stream and having to get up three to five times at night to urinate. When first seen on December 26, 1957, the patient was observed to be a heavy-set man who looked to be about 70 years old, who thought and moved slowly. He was five feet eight inches tall, weighed 174 pounds, had a heart rate of 70 with occasional premature ventricular systole. Blood pressure was 160/90, the aortic second sound was loud and ringing in quality. A soft systolic murmur was heard at the base, with transmission and aortic valve distribution.

The liver edge was one finger-breadth below the costal margin. The prostate was enlarged. The chest X-ray, BUN, cholesterol, blood sugar and PBI were normal. The T-wave in lead V-6 was low, QRS was .10 seconds, slightly prolonged. During the next eight months the patient lost six pounds in weight on a reduction diet. On Rauwolfia his blood pressure remained unchanged. Pentaerythritol tetranitrate was prescribed and angina pectoris disappeared.

The patient stopped taking his medication about the latter part of 1958. In 1959 exertional pain re-appeared. In 1960 this became much worse, and he again experienced severe fatigue. Ten days after he began to have chest pain with arm radiation at rest. He experienced a more severe attack of chest pain with radiation to both arms, vomited, and arrived at the hospital three hours later. For ten days preceding his admission to another hospital this patient had ominous warning of an impending coronary occlusion and myocardial infarction. The infarction was located by electrocardiogram on the posterior wall.

Despite the grave manifestations of hypotension, congestive heart failure and persistence of pain, the patient recovered from this episode. His lymph nodes were not enlarged, and the spleen was not felt. Hospitalization and initiation of anti-coagulant therapy during a premonitory phase of coronary occlusion may avert disaster. Evidence on this point is controversial. I personally, with this symptomatology, would consider that coronary occlusion and myocardial infarction were imminent and would hospitalize the patient and, without contra-indications, would begin anti-coagulant therapy.

Anemia

Discovery of the anemia of seven grams on this patient followed by correction, would probably only have postponed this patient's eventual myocardial infarction. About 75 per cent of the white blood cells which were seen on smear were interpreted as myeloblasts or myelocytes and 15 per cent as monocytes. The total white blood cell count was 7900. This was, then, an acute leukemia, with an initial manifestation of myocardial infarction, sub-leukemic because there was no leucocytosis and called monocytic of the Naegeli type.

Bone marrow smears at another hospital confirmed the diagnosis of acute leukemia, and unfortunately the pathologist who examined the smears was unable to find the slides, and we have no antemortem bone marrow smears. Such confirmation, according to Wintrobe, with a bone marrow smear, is not necessary if there is no

question of the diagnosis on peripheral blood smear. Dr. Don may disagree with that. The patient was treated with digitalis, diuretics, quinidine, peritrate and blood transfusions, and six mercapta purine, or purinethol.

A blotchy, vascular eruption disappeared when Prednisone was administered. A severe stomatitis slowly subsided when the six mercapta purine dosage was lowered. Despite minor changes in the peripheral white blood cell count, the anemia was unaffected by treatment. Transfusion of one or two pints of blood was required every seven to 10 days to maintain hemoglobin of eight grams or more. Severe chest pain would appear when the hemoglobin went below this level.

When the patient was discharged from the hospital on July 1 he was apparently out of congestive heart failure. During the next month he required five pints of blood. Before several of the transfusions the hemoglobin was six or seven grams, a platelet count on one occasion was 70,000. On August 2 he was admitted to this hospital with congestive heart failure with increasingly severe chest pain. Blood pressure was 100/60.

Mechanism Not Explained

Commonly there is a drop in blood pressure which follows myocardial infarction, whether they have elevated blood pressure or not previously. The mechanism is not completely explained. There was a shallow ulcer of the tongue border which probably accounted for the sub-macillary lymph node enlargement. There was a grade II systolic precordial murmur. The left testicle was tender, whatever that means. Petechiae were present. The prothrombin time was 54 per cent of control, Q waves were present in Leads three and AVF, the remnants of the posterior myocardial infarction he had previously experienced. There was diffuse S-T segment depression which could have indicated either myocardial change or digitalis effect. After admission to the hospital the prednisone dosage was reduced, the six mercapta purine was stopped, and aminopterin was started. After three units of packed red cells the BUN fell almost to normal, and the hematocrit rose to 22 to 29 volume per cent. Chest pain stopped, lungs

cleared, edema disappeared, but sores of the mouth and of the lips became worse and petechiae purpura spread. The white blood cell count varied between 10,000 and 24,000. Death followed recurrence of chest pain and shock. Dr. Don had the opportunity to see the smears but there was no bone marrow obtained because the bone marrow had already been done. Would you care to comment, Dr. Don, on these two slides we have, and say anything you want to say?

Dr. Rita Don

Shortly after the patient was admitted to the hospital in the last two weeks of his illness, I saw his blood smears. The white blood cells that were present were extremely immature, last stage, bizarre, and there were a few or no mature cells present. The cytoplasm was fine. There was no foamy appearance to the cytoplasm in the nucleus, again the cytoplasm was finely granular, with anywhere from one to three nucleoli present. There was an occasional cell that was slightly lobulated as may be seen in lymphosarcomatous change. There were no granules noted in any of the cytoplasm of the cells, and for this reason my interpretation was that this patient had an acute leukemia most likely of the lymphatic type.

At this time I knew nothing of this individual except that he was a male adult. On requesting bone marrow, it was found that this patient was a private patient in the hospital and we would have to have the permission of the attending physician. Then I found out that this man had previously had a bone marrow in which the diagnosis of myelogenous leukemia was made, and his condition was such it did not seem wise to obtain another bone marrow. For these reasons I thought that it was lymphatic rather than myelogenous, leukemia. The peripheral blood changes remained constant.

Actually the argument is simply an academic one in this instance. It really isn't fair for me to say honestly that I know whether this is lymphatic or myelogenous leukemia because the cells are so immature. However, in some of the cells the nucleus has a squash-ball appearance which is a phenomenon more often seen in lymphatic than myelogenous leukemia.

It is stated by the experts that distinction between myeloblasts and lymphoblasts may be impossible to make if the cells are extremely immature. It may or may not be an academic question depending on what you think about the treatment for acute leukemia. To review several aspects of the problem of leukemia briefly, the distinction between acute and chronic leukemia is made primarily on the basis of immaturity of cells and secondarily on the course of the illness and other manifestations of disease.

The blood smear in chronic lymphogenous chronic lymphocytic leukemia shows a monotonous picture, with large numbers of fairly mature lymphocytes. The smear in chronic myelogenous leukemia is a varied one, because there are all stages in the granulocytic series. The acute leukemias are characterized by the predominance of 30 to 60 per cent, in this particular patient, 98 per cent, of extremely immature cells, blast forms, or earlier.

Not uncommonly technicians, and I would certainly do the same if I had the opportunity, confuse these immature cells of acute leukemia with lymphocytes, and they are reported as lymphocytes. Since the experts disagree on interpretation of cells and since therefore different centers with different hematologists have different percentages of acute leukemia, it certainly must be a very difficult question. The theoretical description of differences between the blast cells of myelogenous series and the blast cells of the lymphogenous series, and the immature cells seen in monocytic leukemia look all right theoretically in a textbook, but on a practical smear those differences disappear and characteristics overlap, so this individual without question had an acute leukemia, lymphogenous or monocytic or stem cell.

Other Diagnoses

Now, should we consider any diagnoses here other than what is obvious. The man's course as far as his angina pectoris and subsequent posterior myocardial infarction, persistence of chest pain and a subsequent episode of chest pain followed

by shock and by death are concerned, is so typical for coronary artery disease that nothing else needs to be taken into account. Should we entertain any diagnosis other than leukemia? We had one CPC in which a younger individual was treated with nitrogen mustard who on autopsy had miliary tuberculosis. This individual does not have a leucocytosis, nothing to suggest miliary tuberculosis, nor other infection except those which appeared after the development of his leukemia. He received large amounts of steroids after the diagnosis of leukemia was made.

Blood was poured into this patient's vascular system and went out of his blood vessels as though they were full of holes. We had no evidence in this particular individual of any severe blood loss. It is true that terminally he did have some blood loss and without question there was extensive bleeding into his skin, muscles and viscera, but as far as orifices were concerned there was no extensive blood loss. This man has thrombocytopenia which again is not a complete explanation for his anemia nor for the severe anemia seen in acute leukemia.

Myelophthisis is not a complete explanation, that is, replacement of bone marrow by the leukemia cells. Significant hemolysis should have been reflected in this man by elevation of serum bilirubin. One was obtained during the admission in July, which was normal. In the face of increased hemolysis with congestion of the liver secondary to his heart failure, there should have been inadequate excretion of the bilirubin. Normal bone marrow is able to respond about 10 fold to increased demand.

The normal average life span of the red blood cell is 120 days. About .83 per cent or 50 milliliters in the average adult male is replaced each day. This patient required about 100 milliliters a day, about twice the normal amount of blood destruction. His erythropoietic mechanism was unable to respond to the increased demand.

There is treatment for leukemia. In chronic lymphocytic leukemia, treatment is not necessary until symptoms appear and some individuals be-

lieve that treatment should be withheld until those symptoms interfere with the individual's normal function. The treatment of choice of chronic lymphocytic leukemia is Leukeran, or chlorambucil, which is a nitrogen mustard derivative. The treatment of choice for chronic myelogenous leukemia is Myleran or busulfan, which is a sulfonic ester.

Irradiation to the spleen which is almost always tremendously enlarged in chronic myelogenous leukemia, is usually done. There are some people who believe that there is treatment for acute leukemia, even though prolongation of life is measured only in terms of months. It does seem that children respond better than adults do. Wintrobe's recommended treatment for acute lymphogenous leukemia is cortical steroids followed by six mercapta purine and followed by folic acid antoagonist. It is his opinion that the cortical steroids are of no help and possibly make the situation worse in acute myelogenous leukemia which, if he is correct, would make the question of differentiation between a lymphogenous and myelogenous leukemia more than academic.

Experimentally there are reports of total body irradiation with bone marrow transfusions. Apparently this hasn't been of very much help. possibly one individual who was a monozygotic twin, received a marrow transplant from the twin, and was helped significantly. There are reports of the use of dosages of prednisone in the range of 500 mg. to 1000 mg. per day, fantastic in cost also, for periods from two to three weeks initially in acute leukemias, and there is question as to whether this is of value.

Things were probably confusing to Dr. Bornstein at autopsy as he has so often pointed out. classical pathological descriptions were before the era of the steroid drugs, before the era of potent chemical drugs, before the era of the antibiotics.

The diagnoses as given on the protocol with which I can't disagree, are, coronary artery disease, angina pectoris, recurrent myocardial farction resulting in death, with an acute leukemia, lymphogenous or myelogenous.

Clinical Diagnosis: Leukemia and coronary heart disease.

Dr. Kleban's Diagnoses: 1. Recurrent myocardial infarction; 2. Leukemia, lymphogenous or myelogenous.

Pathological Discussion: Dr. F. P. Bornstein

The autopsy obviously resolved around two lesions. The cardiac lesion and the leukemia one. We can dispose of the cardiac lesion fairly easily. There was a fresh myocardial infarction on the posterior wall adjacent to an old scar. It is a well known fact that fresh infarctions are frequently located in the neighborhood of old scars.

As to the leukemic part, the external examination reveals a rather frightening appearance (Fig. 1). The skin was mottled with numerous bluish discolorations as if this man had been hit by buckshot. However, these represent leukemic lesions in the skin. They are commonly seen in monocytic leukemia and this is what I expected to find on autopsy.



Figure 1

The liver weighed 2300 grams. The spleen weighed 250 grams. The lymph nodes were not enlarged and neither the liver nor kidneys nor spleen showed any gross pathology suggestive of any specific leukemic lesion. Usually the histological examination can resolve such questions. However, the histological examination of the liver, kidneys and lymph nodes showed completely normal histological findings and no evidence of leukemia at all.

Bone Marrow

The only abnormal findings were in the bone marrow. (Fig. 2). We can make a few definite statements about the bone marrow; namely, it is a cellular bone marrow which excludes an aplastic anemia, and is free from hemosiderin, which

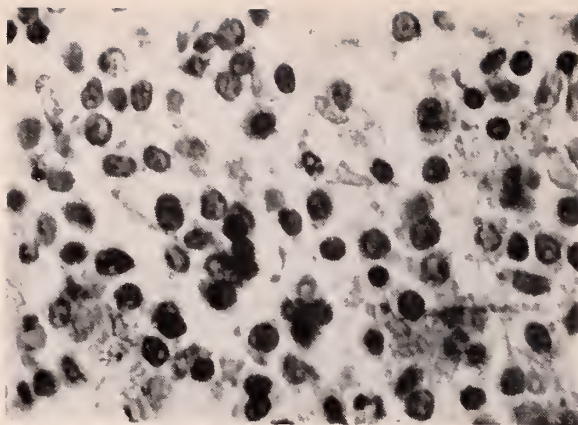


Figure 2

excludes a severe hemolyzing process. The cells in the bone marrow are just as primitive and undifferentiated as were the cells in the peripheral blood. Special stains with reticulum stains did not contribute any further to elucidate the nature of the leukemic process.

As Dr. Kleban anticipated, I am blaming my inability to come to a definite diagnosis on the anti-leukemic drugs. They obviously have wiped out all leukemic foci and I am sure that there must have been leukemic foci in the liver and kidneys. So we are left with a bone marrow filled with immature cells which do not produce any mature forms. There are no megakaryocytes which is obviously responsible for the hemorrhages that were observed.

Under these circumstances we cannot go any further than saying this was a man who had coronary heart disease and a completely undifferentiated leukemia.

Pathological Diagnoses: 1. Acute undifferentiated leukemia. 2. Numerous foci of hemorrhage throughout the entire body. 3. Coronary sclerosis. 4. Fresh myocardial infarction.

New Officers

New officers of the Southwestern New Mexico Medical Association were elected Jan. 20 at a meeting held in Deming. They are Dr. Wendell S. Dove, Silver City, president; Dr. Leland Evans, Las Cruces, vice-president; and Dr. David W. Bennett, Deming, secretary-treasurer.

Squibb Reimbursal Program

A program to provide a 10 per cent allowance to those states which reimburse retail pharmacies directly for prescriptions filled by them for the state's welfare patients has been announced by the pharmaceutical firm of E. R. Squibb & Sons.

The Squibb proposal, to be made directly to state welfare directors by the firm's medical representatives, will reduce medical welfare costs to the states equal to 10 per cent of the amount they pay to private pharmacies for filling welfare prescriptions. All Squibb prescription products, including specialties and generic name products under the Squibb label, come under the new program.

Medical History of War Offered

Publication of a comprehensive "History of the Medical Department, United States Army, in World War II" has been announced by the Office of the Army Surgeon General.

A total of 48 volumes is scheduled for publication. Fifteen volumes have been printed and are available for distribution. The set of 15 volumes or individual books may be purchased from The Superintendent of Documents, Government Printing Office, Washington 25, D. C.

Volumes now available are:

General Surgery, Neurosurgery (Vols. 1 & 2), Hand Surgery, Ophthalmology and Otolaryngology, Orthopedic Surgery, European Theater of Operations; Orthopedic Surgery, Mediterranean Theater of Operations; Physiologic Effects of Wounds, Vascular Surgery, Cold Injury, Ground Type; Dental Service, Environmental Hygiene, Personal Health Measures and Immunization, Communicable Diseases; Hospitalization and Evacuation, Zone of Interior.



Southwestern Physicians' Directory



SAUL B. APPEL, M.D.

Certified by the American Board of Internal Medicine

CARDIOVASCULAR DISEASES

Suite 10E EL PASO MEDICAL CENTER 1501 Arizona Ave.
KE 3-5201 El Paso, Texas

ARTESIA MEDICAL CENTER

Henry L. Wall, M.D., Suite A Phone:
General Practice SH 6-2311
Robert W. Harper, M.D., Suite B SH 6-2531
Surgery and Gynecology
Owen C. Taylor, Jr., M.D., Suite C SH 6-2521
General Practice
C. Pardue Bunch, M.D., Suite D SH 6-3321
General Practice
Gerald A. Slusser, M. D., Suite E SH 6-2441
Surgery
X-ray and Medical Laboratory SH 6-4200
Fourth and Washington Artesia, New Mexico

ANDREW M. BABEY, M. D.

Certified by the American Board of Internal Medicine

CARDIOVASCULAR DISEASES

250 West Court Avenue Jackson 4-4481 Las Cruces, N. M.

FRANK O. BARRETT ANESTHESIOLOGY ASSOCIATES

J. A. Shugart, M.D.

(Diplomate American Board of Anesthesiology)

Jack Walker, M.D., J. W. Redelfs, M.D., Jack Ellis, M.D.

B. F. Fehlman, M. D., C. G. Race, M.D.

— ANESTHESIOLOGY —

El Paso Medical Center KE 3-8431 1501 Arizona Ave.
El Paso, Texas

OTTO L. BENDHEIM, M. D.

DIPLOMATE AMERICAN BOARD OF PSYCHIATRY & NEUROLOGY

5051 N. 34th Street CRestwood 7-7431 Phoenix, Arizona

RAYMOND J. BENNETT, M. D.

Diplomate of the American Board of Neurology and Psychiatry

PRACTICE LIMITED TO NEUROPSYCHIATRY

Suite 7A El Paso Medical Center 1501 Arizona Avenue
Phone KE 2-1177 El Paso, Texas

JACK A. BERNARD, M.D., F.A.C.P.

Diplomate American Board Internal Medicine

INTERNAL MEDICINE CARDIOVASCULAR DISEASES

Suite 3C El Paso Medical Center 1501 Arizona Avenue
Phone KE 3-8151 El Paso, Texas

VICTOR M. BLANCO, M.D.

Diplomate of the American Board of Surgery

GENERAL AND CANCER SURGERY

205 University Towers Building
1900 N. Oregon St. KE 3-5519 El Paso, Texas

CLEMENT C. BOEHLER, M. D., F.A.C.S.

H. W. DEMAREST, M.D., F.A.C.S.

Diplomates American Board Obstetrics and Gynecology

Suite 8-A Medical Center 1501 Arizona Avenue
Phone KE 2-6591 El Paso, Texas

FREDERICK P. BORNSTEIN, M.D.

Certified by the American Board of Pathology
in Pathologic Anatomy and Forensic Pathology

102 University Towers Bldg.
1900 N. Oregon St. KE 2-3901 El Paso, Texas

LOUIS W. BRECK, M.D.

W. COMPERE BASOM, M.D.

MORTON H. LEONARD, M.D.

MARIO PALAFOX, M.D.

ZIGMUND W. KOSICKI, M.D.

ADRIAN L. GRASS, M.D.

The El Paso Orthopaedic Surgery Group

1220 N. Stanton St. Telephone KE 3-7465 El Paso, Texas

*3500 Physicians Road
Southwestern Medicine*

BASIL K. BYRNE, M.D., F.A.A.P.

IRVIN J. GOLDFARB, M.D., F.A.A.P.

Diplomates American Board of Pediatrics
PEDIATRICS

Suite 4A El Paso Medical Center 1501 Arizona Avenue
KE 3-8487 El Paso, Texas

ROBERT J. CARDWELL, M.D.

(Diplomate American Board of Obstetrics and Gynecology)

608 University Towers Building
1900 N. Oregon St. KE 3-7587 El Paso, Texas



Southwestern Physicians' Directory



ROBERT N. CAYLOR, M.D.

Practice Limited to Ophthalmology

508 University Towers Building

1900 N. Oregon St. KE 3-4909 El Paso, Texas

WILLIAM I. COLDWELL, M.D.

Certified by the American Board of Internal Medicine

INTERNAL MEDICINE

501 University Towers Building

1900 N. Oregon St. KE 2-2661 El Paso, Texas

BRANCH CRAIGE, M.D., F.A.C.P.

(Certified by American Board of Internal Medicine)

INTERNAL MEDICINE

Suite 58 El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-7121 El Paso, Texas

E. S. CROSSETT, M.D.

Diplomate American Board of Thoracic Surgery

GEORGE W. IWEN, M.D.
THORACIC SURGERY

Cardiovascular Surgery Broncho-Esophagology
Suite 11-D KE 3-8511 or KE 2-2474 1501 Arizona Ave.
El Paso Medical Center El Paso, Texas

WICKLIFFE R. CURTIS, M. D., F.A.C.S.

JAMES D. BOZZELL, M.D., F.A.C.S.

Diplomates American Board of Urology

PRACTICE LIMITED TO UROLOGY

Suite 3B El Paso Medical Center 1501 Arizona Avenue
Phone KE 3-1426 El Paso, Texas

RITA L. DON, M.D.

Allergy

102 University Towers Building

1900 N. Oregon St. KE 2-3901 El Paso, Texas

ANTONIO DOW, M.D., F.A.C.S.

(Diplomate of American Board of Surgery)

GENERAL SURGERY

205 University Towers Building

1900 N. Oregon St. KE 2-7305 El Paso, Texas

HAROLD D. DOW, M.D.

FREDERICK J. KOBERG, M.D.

General Practice — Surgery

Box 456
702 Hobbs Road Phone 3641 Seminole, Texas

3500 Physicians Read

Southwestern Medicine

JOHN A. EISENBEISS, M.D., F.A.C.S.

WILLIAM B. HELME, M.D.

Diplomates of the American Board of Neurological Surgery
NEUROSURGERY

926 E. McDowell Road AL 4-3151 Phoenix, Arizona

WARD EVANS, M.D., F.A.C.S.

(Diplomate American Board of Surgery)

SURGERY

608 University Towers Building

1900 N. Oregon St. KE 3-7587 El Paso, Texas

LESTER C. FEENER, M.D., F.A.C.P.

Diplomate American Board of Internal Medicine

INTERNAL MEDICINE

CARDIOVASCULAR DISEASES

404 Banner Bldg. KE 2-5771 El Paso, Texas

2021 N. Central Ave. AL 3-4131

DOUGLAS D. GAIN, M.D.

JOHN W. KENNEDY, M.D.

JAMES R. MATHESON, M.D.

FRANK TOLONE, M.D.

Diplomates of American Board of Radiology
X-RAY THERAPY and DIAGNOSIS
RADIUM THERAPY

Phoenix

Arizona

ALBERT A. GEMOETS, M.D.

Member American Academy of General Practice

GENERAL PRACTICE

3726 1/2 Alameda Ave. KE 3-7689 El Paso, Texas

H. M. GIBSON, M.D., F.A.C.S.

Certified by American Board of Urology

PRACTICE LIMITED TO UROLOGY

512 University Towers Building

1900 N. Oregon St. KE 2-8130 El Paso, Texas

L. A. GLADSTONE, M.D.

W. D. FEINBERG, M.D.

INTERNAL MEDICINE

Bldg. 14, Suite D 1501 Arizona Ave.
El Paso Medical Center KE 3-2508 El Paso, Texas



ROBAXIN Injectable administered



Dramatic improvement 15 minutes later



Factual Clinical Data: Male patient with marked spasm of right lumbar region found even slight bending extremely painful. Fifteen minutes after administration of 10 cc. of ROBAXIN Injectable, spasm had disappeared and patient could bend without pain. Photographs used with permission of patient.

References: 1. Carpenter, E. B.: Southern M.J. 51:627, 1958. 2. Forsyth, H. F.: J.A.M.A. 167:163, 1958. 3. Grisolia, A., and Thomson, J. E. M.: Clin. Orthopaedics 13:299, 1959. 4. Leventen, E. O., and Vaccarino, F. P.: Current Therap. Res. 2:497, 1960. 5. Lewis, W. B.: California Med. 90:26, 1959. 6. O'Doherty, D. S., and Shields, C. D.: J.A.M.A. 167:160, 1958. 7. Park, H. W.: J.A.M.A. 167:168, 1958. 8. Plumb, C. S.: Journal-Lancet 78:531, 1958. 9. Poppen, J. L., and Flanagan, M. E.: J.A.M.A. 171:298, 1959. 10. Schaubel, H. J.: Orthopaedics 1:274, 1959.

In a matter of minutes



"excellent" relief^{4,10} in skeletal muscle spasm with

Robaxin[®]

INJECTABLE Methocarbamol Robins
U.S. Pat. No. 2770649



- "... subjective relief of pain usually began within ten minutes..."¹⁰
- "... a valuable therapeutic agent for the treatment of acute disorders involving skeletal muscle spasm."⁴
- "... effective in producing immediate relaxation of paravertebral muscle spasm in patients who have undergone cervical and lumbar laminectomies."⁹

...for continuing relief without drowsiness

Robaxin[®]

TABLETS Methocarbamol Robins



Ten published studies with 474 patients show ROBAXIN Injectable and ROBAXIN Tablets beneficial in 89% of cases.¹⁻¹⁰

- "... a superior skeletal muscle relaxant in acute orthopedic conditions."¹
- "An excellent result, after methocarbamol administration, was obtained in all patients with acute skeletal muscle spasm."⁶
- "In no instance was there decrease in intensity of simple reflex responses or voluntary muscular strength."⁷

Supply: ROBAXIN Injectable, 1.0 Gm. methocarbamol in 10-cc. ampul. ROBAXIN Tablets, 0.5 Gm. (white, scored) in bottles of 50 and 500.

Also available, for oral use when severe pain accompanies skeletal muscle spasm: ROBAXISAL Tablets (Robaxin with Aspirin) in bottles of 100 and 500. ROBAXISAL-PH (Robaxin with Phenaphen[®]) in bottles of 100 and 500.

A. H. ROBINS CO., INC., RICHMOND 20, VIRGINIA
Making today's medicines with integrity ... seeking tomorrow's with persistence



Southwestern Physicians' Directory



JAMES J. GORMAN, M.D., F.A.C.P.

Diplomate American Board of Internal Medicine

DIAGNOSIS — GASTROENTEROLOGY

701 First National Building KE 2-6221 El Paso, Texas

J. LEIGHTON GREEN, M.D., F.A.C.S.

GENERAL and GYNECOLOGICAL SURGERY

Suite 3A El Paso Medical Center 1501 Arizona Avenue
Phone KE 2-9790 El Paso, Texas

RALPH G. GREENLEE, M.D., F.A.C.P.

Diplomate American Board of Internal Medicine

INTERNAL MEDICINE

401 N. Garfield MUtual 4-8072 Midland, Texas

DRS. HART, BOVERIE, BLACK,
CLAYTON, GREEN & WHITE

PATHOLOGICAL AND CLINICAL LABORATORIES
X-RAY DIAGNOSIS AND THERAPY

Radioactive
Isotopes

Cobalt
Beam Therapy

Pathology

M. S. HART, M.D.

C. L. GREEN, M.D.

Diplomates American Board of Pathology

R. F. BOVERIE, M.D.

G. L. BLACK, M.D.

R. S. CLAYTON, M.D.

J. E. WHITE, M.D.

Diplomates American Board of Radiology

MELVIN A. LYONS, M.S.H.A.

Business Manager

El Paso Medical Center 1501 Arizona Ave., Suite 2A KE 3-447B
Medical Arts Building 415 E. Yandell Drive, Suite 105 KE 3-6926

EL PASO, TEXAS

SOL HEINEMANN, M.D., F.A.C.S.

Diplomate, American Board of Urology

UROLOGY

212 University Towers Bldg.
1900 N. Oregon St. LI 2-1539 El Paso, Texas

SOLOMON HELLER, M.D.

INTERNAL MEDICINE

Hematology—Endocrinology

505 University Towers Building
1900 N. Oregon St. KE 3-0406 El Paso, Texas

HERBERT E. HIPPS, M.D.

ORTHOPEDIC SURGERY

1612 Columbus Ave. 4-4701 Waco, Texas

RUSSELL HOLT, M.D.

B. LYNN GOODLOE, M.D.

GENERAL and GYNECOLOGICAL SURGERY

MEDICAL ARTS BUILDING

415 East Yandell Blvd. KE 3-3443 El Paso, Texas

RALPH H. HOMAN, M.D., F.A.C.P.

CARDIOLOGY

ROBERT B. HOMAN, JR., M.D., F.A.C.S.

DISEASES OF THE CHEST — THORACIC SURGERY

Suite 7D El Paso Medical Center 1501 Arizona Avenue
Phone KE 3-1409 El Paso, Texas

GEORGE W. HORTON, M.D.

PRACTICE LIMITED TO ORTHOPEDICS

513 West 4th Street Federal 2-1271 Odessa, Texas

LOUIS G. JEKEL, M.D.

ROBERT H. SNAPP, M.D.

Diplomates American Board of Dermatology

DERMATOLOGY

550 W. Thomas Rd. CR 4-4901 Phoenix, Ariz

3500 Physicians Road

Southwestern Medicine

W. A. JONES, M.D.

Diplomate American Board of Neurological Surgery

K. ZOLFOGHARY, M.D.,

NEUROLOGICAL SURGERY

Suite 1C El Paso Medical Center 1501 Arizona Avenue
KE 2-7579, KE 3-9076 El Paso, Texas

G. H. Jordan, M.D., F.A.C.S. C. E. Webb, M.D., F.A.C.S.

DRS. JORDAN AND WEBB

Diplomates American Board of Surgery

GENERAL and GYNECOLOGICAL SURGERY

Suite 7B El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-1693 El Paso, Texas



Southwestern Physicians' Directory



LINDELL M. KINMAN, M.D.

Diplomate American Board of Urology

UROLOGY

300 West Alameda Phone MA 2-4111 Roswell, N. Mex.

M. NATHAN KLEBAN, M.D.

Certified by American Board of Internal Medicine

Internal Medicine

610 University Towers Building

1900 N. Oregon St. KE 2-7079 El Paso, Texas

J. T. KRUEGER, JR., M.D.

THORACIC and CARDIOVASCULAR SURGERY

PO 3-8281

Ext 250

1910 Knoxville Lubbock, Texas

GILBERT LANDIS, M.D., F.A.C.S.

Diplomate American Board of Obstetrics & Gynecology

OBSTETRICS, GYNECOLOGY
and GYNECOLOGICAL SURGERY

Suite 15-D KE 3-5023 1501 Arizona Ave.
El Paso Medical Center El Paso, Texas

ROYCE C. LEWIS, JR., M.D.

Diplomate American Board of Orthopedic Surgery

ORTHOPEDIC SURGERY and SURGERY OF THE HAND

1910 Knoxville St. PO 3-8281 Lubbock, Texas

A. L. LINDBERG, M.D.

JOHN W. VOSSKUHLER, M.D.

Neoplastic Diseases

TUCSON TUMOR CLINIC

721 N. 4th Ave. MA 3-2531 Tucson, Arizona

CHARLES P. C. LOGSDON, M.D.

CARDIOLOGY

415 E. Yandell Blvd. KE 3-7916 El Paso, Texas

TRUETT L. MADDOX, D.D.S.

ORAL SURGERY

Suite 9A El Paso Medical Center 1501 Arizona Ave.

Phone KE 2-3659 El Paso, Texas

WALTER B. MANTOOTH, JR., M.D.

Dermatology and Cancer of the Skin

Suite 101

3801 19th Street

SWift 9-4359

Lubbock

Texas

GEORGE B. MARKLE, IV, M.D.

Diplomate of the American Board of Surgery

GENERAL and GYNECOLOGICAL SURGERY

911 North Canal TU 5-5240 Carlsbad, New Mexico

HOWARD J. H. MARSHALL, M.D.

Member American Academy of General Practice

GENERAL PRACTICE

Suite 8E

El Paso Medical Center

KE 2-2431

1501 Arizona Avenue

El Paso, Texas

MARSHALL CLINIC

I. J. Marshall, M.D.

General Surgery and Diagnosis

U. S. Marshall, M.D.

General Surgery and General Practice

E. A. Latimer, M.D.

General Practice

C. H. Fowler, M.D.

Internal Medicine and Cardiology

Thomas J. Jones, M.D.

Diseases of the Skin and Allergies

H. D. Johnson, Jr., D.D.S.

ROSWELL

NEW MEXICO

MEDICAL CENTER HOSPITAL AND CLINIC

Eugene McCarthy, M.D., FACS, FICS

Diplomate American Board of Obstetrics & Gynecology

Jeff H. Davis, M.D., AAGP; Joe J. Horn, M.D., AAGP

Howard Handcock, M.D., DABR

A. B. Cairns, M.D., FACCP; W. Ralph Thomas, M.D.

220 St. Louis St. CA 4-7426 Plainview, Texas

LEROY J. MILLER, M.D.

Diplomate American Board of Neurological Surgery

NEUROLOGICAL SURGERY

717 Encino Place, NE Phone 3-1150 Albuquerque, N. M.

A. WILLIAM MULTHAUF, M.D., F.A.C.S.

UROLOGICAL DIAGNOSIS AND SURGERY

1315 First National Bldg. KE 3-8986 El Paso, Texas



Southwestern Physicians' Directory



E. K. NEIDICH, M.D., D.A.B.R.

RADIOLOGY

Memorial General Hospital JACKSON 6-2411 Las Cruces, N. M.

WALLACE E. NISSEN, M.D., F.A.C.S.
W. W. KRIDELBAUGH, M.D., F.A.C.S.

GENERAL SURGERY

Medical Arts Square
801 Encino Place, Suite 35 3-2251 Albuquerque, N. M.

F. KEITH OEHLISCHLAGER, M.D.
WILLIAM M. BRANTLEY, M.D.

OBSTETRICS & GYNECOLOGY

1167 E. 42nd St. Sherwood Medical Center Phone
Suites 5 & 6 Odessa, Texas EM 6-4447

THE ORTHOPEDIC CLINIC

Orthopedic Surgery

W. A. BISHOP, JR., M.D., F.A.C.S.
ALVIN L. SWENSON, M.D., F.A.C.S.
RAY FIFE, M.D.
SIDNEY L. STOVALL, M.D., F.A.C.S.
THOMAS H. TABER, JR., M.D., F.A.C.S.

Diplomates of the American Board of Orthopedic Surgery
2620 North Third Street—Phone CRestwood 7-6211—Phoenix, Ariz.

JAMES M. OVENS, M.D.
F.A.C.S., F.I.C.S.

Diplomate American Board of Surgery

CANCER AND TUMOR SURGERY X-RAY AND RADIUM THERAPY

608 Professional Building AL 8-8074 Phoenix, Ariz.

ROBERT E. PARKINS, D.D.S.

GENERAL DENTISTRY

Bldg. I, Suite E 1501 Arizona Ave.
Phone KE 3-1245 El Paso Medical Center El Paso, Texas

MURRAY PERSKY, M.D.

PSYCHIATRY

Suite 15-B 1501 Arizona Ave.
El Paso Medical Center KE 2-7952 El Paso, Texas

JACK C. POSTLEWAITE, M.D.

Diplomate American Board of Internal Medicine

INTERNAL MEDICINE

Suite 5D 1501 Arizona Ave.
El Paso Medical Center KE 2-1385 El Paso, Texas

HUMBERTO QUIRARTE, M.D.

Practice Limited to Urology

204 Medical Arts Building
415 E. Yandell Drive KE 2-2193 El Paso, Texas

DONALD RATHBUN, M.D.

NEUROLOGY

and

Internal Medicine

Suite 4B KE 2-8778 1501 Arizona Ave.
El Paso Medical Center El Paso, Texas

VINCENT M. RAVEL, M.D.

Diplomate American Board of Radiology

Radiology — Radio-Isotopes

Cobalt⁶⁰ — Teletherapy

101 University Towers Bldg.
El Paso KE 2-3459 Texas

HERMAN RICE, M.D.

Practice Limited to General Surgery

El Paso Medical Center

Bldg. 4-B 1501 Arizona Ave.
Phone KE 3-8051 El Paso, Texas

RISSLER-WOLLMANN CLINIC

ROSS W. RISSLER, M.D., F.A.C.C.
(Certified by the American Board of Internal Medicine)
INTERNAL MEDICINE — CARDIOLOGY

WALTER W. WOLLMANN, M.D., F.A.C.S.
(Certified by the American Board of Surgery)
GENERAL SURGERY

2001 Grant Ave. KE 3-1601 El Paso, Texas

*3500 Physicians Road
Southwestern Medicine*

CECIL A. ROBINSON, M.D., F.A.C.S.

Diplomate American Board of Orthopaedic Surgery

Orthopaedic Surgery

111 No. Pine Street JU 6-2541 Kermit, Texas

new Tandearil[®]

brand of oxyphenbutazone

Geigy

inflammation takes flight



a new development in nonhormonal, anti-inflammatory therapy

more specific than steroids—

Acts directly on the inflammatory lesion **without** altering pituitary-adrenal function . . . **without** impairing immunity responses.^{8,11}

more dependable than enzymes—

Rapid and complete absorption, without the uncertainty of oral or buccal enzyme therapy.⁸

more potent than salicylates—

Anti-inflammatory potency of Tandearil markedly superior to aspirin.¹²

Remarkably useful in a wide variety of inflammatory conditions, including: rheumatoid arthritis, spondylitis, osteoarthritis^{1,2,3}; gout^{1,4,5}; acute superficial thrombophlebitis^{6,7}; painful shoulder (peritendinitis, capsulitis, bursitis, and acute arthritis of that joint)^{1,4}; severe forms of a variety of local inflammatory conditions^{8,9,10}.

The physician should be thoroughly familiar with the dosage, side effects, precautions and contraindications of Tandearil before prescribing. Full product information available on request.

availability:

Round, tan, sugar-coated tablets of 100 mg. in bottles of 100 and 1000.

references:

1. Graham, W.: *Canad. M.A.J.* : **82**:1005 (May 14) 1960. 2. Vaughn, P. P., Howell, D. S., and Kiem, I. M.: *Arth. and Rheumat.* **2**:212, 1959. 3. O'Reilly, T. J.: *J. Irish M.A.* **46**:106, 1960. 4. Connell, J. F., Jr., and Rousselot, L. M.: *Am. J. Surg.* **98**:31, 1959. 5. Brodie, B. B., et al., in *Contemporary Rheumatology* 1956, p. 600. 6. Stein, I. D.: *Ann. N.Y. Acad. Sc.* **86**:307 (March 30) 1960. 7. Barczyk, W., and Röth, W.: *Praxis* **49**:589, 1960. 8. Miller, J. M., et al.: *Antibiotic Med. and Clin.*

Therap. **7**:109, 1960. 9. Connell, J. F., Jr., and Rousselot, L. M.: *Am. J. Surg.* **97**:429, 1959. 10. Summary of individual case histories submitted to Geigy. 11. Domenjoz, R.: *Ann. N.Y. Acad. Sc.* **86**:263, 1960. 12. Smyth, C. J.: *Ann. N.Y. Acad. Sc.* **86**:292, 1960.

Geigy Pharmaceuticals
Division of Geigy Chemical Corporation
Ardsley, New York
545-61



Southwestern Physicians' Directory



S. PERRY ROGERS, M.D.
W. HUNTER VAUGHAN, M.D.
(Diplomates American Board of Orthopedic Surgery)
ORTHOPEDIC SURGERY

Suite 2B El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-4433 El Paso, Texas

WILLARD W. SCHUESSLER, M.D.
DONALD H. EWALT, M.D.
Diplomates of the American Board of Plastic Surgery
Plastic, Reconstructive Surgery and
Maxillo-facial Surgery

1501 Arizona Ave. Medical Center, Suite 4-C
El Paso, Texas

F. P. SCHUSTER, M.D.
S. A. SCHUSTER, M.D.
NEWTON F. WALKER, M.D.
BRADFORD HARDIE, M.D.
EYE, EAR, NOSE AND THROAT-BRONCHOSCOPY
First National Bldg. KE 2-1495 El Paso, Texas

O. J. SHAFFER, D.D.S., F.A.C.D.
(Diplomate American Board of Oral Surgery)

ORAL SURGERY

Suite 1D El Paso Medical Center 1501 Arizona Ave.
Phone KE 3-6742 El Paso, Texas

D. J. SIBLEY, JR., M.D.

GENERAL PRACTICE

Box 367 Phone 584 Ft. Stockton, Texas

EUGENE P. SIMMS, M.D.
— GENERAL PRACTICE —

Medical Arts Center
1213 Tenth Street HEmlock 7-1720 Alamogordo, N. M.

Leslie M. Smith, M.D. John C. Wilkinson, M.D.
H. D. Garrett, M.D.

DRS. SMITH, GARRETT & WILKINSON
Diplomates American Board of Dermatology
DISEASES OF THE SKIN

Suite 3D El Paso Medical Center 1501 Arizona Ave.
Phone KE 3-6172 El Paso, Texas

WILLIAM G. SMITH, M.D.
Diplomate American Board of Proctology
Practice Limited to Surgical Diseases
of the Anus, Rectum and Colon
Suite 203 415 E. Yandell Drive El Paso
KE 2-3286 Texas

C. M. STANFILL, M.D.
Diplomate American Board of Otolaryngology
EAR, NOSE AND THROAT
Stapes Mobilization

507 University Towers Building
1900 N. Oregon St. KE 2-9449 El Paso, Texas

ROBERT HEALY STEVENS, B.S., M.D.
F.C.C.P.

ALLERGY — INTERNAL MEDICINE

1313 N. Second St. AL 4-8841 Phoenix, Arizona

C. S. STONE, M.D., F.A.C.S.
A. J. JENSON, B.A., M.D.

Phones: 3-5323 — 3-3033 — 3-4427
301 East Cain Street Hobbs, N.M.

JESSON L. STOWE, M.D.
GRAY E. CARPENTER, M.D.
GYNECOLOGY AND OBSTETRICS

2323 Montana Avenue KE 2-4631 El Paso, Texas

WINSLOW P. STRATEMEYER, M.D.

Diplomate American Board of Neurological Surgery

NEUROLOGICAL SURGERY

Suite 11A Office KE 2-9167 1501 Arizona Ave.
El Paso Medical Center Home JU 4-0553 El Paso, Texas

M. D. THOMAS, M.D.

Diplomate American Board of Anesthesiology

Suite 12-D KE 3-3745
1501 Arizona Ave. El Paso, Texas
El Paso Medical Center

*3500 Physicians Road
Southwestern Medicine*

ROBERT F. THOMPSON, M.D., F.A.C.S.

(Certified by American Board of Urology)

UROLOGY

301 University Towers Building
1900 N. Oregon St. KE 2-4321 El Paso, Texas

What now?



Chymar[®] for one thing

THE SUPERIOR SYSTEMIC ANTI-INFLAMMATORY ENZYME

*to control inflammation, swelling
and pain in ACCIDENTAL TRAUMA
and general surgery¹⁻³*

In a study of 491 cases that included 47 fractures, 45 tonsillectomies, 61 herniotomies and 31 cyst removals, it was concluded that: "chymotrypsin reduces or prevents traumatic and surgical edema and hematoma, accelerates absorption of blood and lymph effusions, reduces pain, promotes wound-healing, and may enhance or augment the action of antibiotics."¹

*the systemic
route to
faster
healing at
any location*



1. Cigarroa, L. G.: J. Internat. Coll. Surgeons 34:442, 1960. 2. Teitel, L. H., et al.: Indust. Med. 29:150, 1960. 3. Billow, B. W., et al.: Southwestern Med. 41:286, 1960.

© January 1961, A. P. Co.

ARMOUR PHARMACEUTICAL COMPANY
KANKAKEE, ILLINOIS • *Armour Means Protection*

..... CHYMAR

Chymar Aqueous and Chymar (in oil) contain chymotrypsin, a proteolytic enzyme with systemic anti-inflammatory and antiedematous properties. **ACTION:** Reduces inflammation of all types; reduces and prevents edema except that of cardiac or renalogin; hastens absorption of blood and lymph extravasates; restores local circulation; promotes healing; reduces pain. **INDICATIONS:** Chymar is indicated in respiratory conditions to liquefy thickened secretions and suppress inflammation of mucosa and bronchiolar tissue; in accidental trauma to speed reduction of hematoma and edema; in inflammatory dermatoses to ameliorate acute inflammation in conjunction with standard therapies; in gynecologic conditions to suppress inflammation and edema and stimulate healing; in surgical procedures to minimize surgical trauma with inflammation and swelling; in genito-urinary disorders to reduce pain and promote faster resolution; in ophthalmic and otorhinolaryngic conditions to lessen hematoma, edema and inflammatory changes; in dental procedures to lessen pain and gum tissue trauma, with inflammation and swelling, in reaction to extractions or surgery. **PRECAUTIONS:** Chymar and Chymar Aqueous are for intramuscular injection only. Although sensitivity to chymotrypsin is uncommon, allergic or anaphylactic reactions may occur with any foreign protein. The usual remedial agents should be readily available in case of untoward reaction. Precautions (scratch testing for Chymar, scratch or intradermal testing for Chymar Aqueous) should be exercised in those patients with known or suspected allergies or sensitivities. **DOSAGE:** 0.5 cc. to 1.0 cc. deep intramuscularly once or twice daily, depending on severity of condition. Decrease frequency as course of condition is altered. In chronic or recurrent conditions, 0.5 cc. to 1.0 cc. once or twice weekly. **SUPPLIED:** 5 cc. vials, 5000 Armour Units of proteolytic activity per cc.





Southwestern Physicians' Directory



TURNER'S CLINICAL & X-RAY LABORATORIES

GEORGE TURNER, M.D.
DELPHIN von BRIESEN, M.D.
HELEN W. ANDERSON, M.D.

MEDICAL CENTER

1501 Arizona Ave.
Building No. 6

Phone: KE 2-4689
El Paso, Texas

HARRY H. VARNER, M.D.
LEIGH E. WILCOX, M.D.
RUSSELL L. DETER, M.D.
GENERAL SURGERY

Suite 5E

Phone KE 2-6529

1501 Arizona Ave.
El Paso Medical Center
El Paso, Texas

WILLIAM H. WADE, M.D., F.A.C.S.

Diplomate American Board of Surgery

GENERAL SURGERY
CARDIOVASCULAR SURGERY

307 Medical Arts Building
415 E. Yandell Drive KE 2-8111

El Paso, Texas

RICHARD P. WAGGONER, M.D.

M.S. (SURG.), F.A.C.S.

GENERAL SURGERY

504 N. Richardson St.

Phone 208

Roswell, N. M.

GRADY M. WALLACE, M.D., D.A.B.O.

Practice Limited to the Eye

3801 19th Street

SW 9-4343

Lubbock, Texas

Hotel Dieu, Sister's Hospital

Fully Approved by the
Joint Commission on Accreditation
of Hospitals.

Latest Facilities For All Services.
Emergency Service Around
the Clock.

EL PASO, TEXAS

Hotel Dieu School of Nursing

Fully approved by the
National Nursing Accrediting
Service.

Applicants May Apply
To
Sister Aloysius, *Director*

EL PASO, TEXAS

Hotel Dieu School of Medical Technology

Fully Approved by the American
Medical Association, American
Society of Clinical Pathologists,
and Registry of Medical Tech-
nologists.

EL PASO, TEXAS

The Clinic-Hospital of San Angelo

D. D. WALL, M.D.
Obstetrics & Gynecology

R. M. FINKS, M.D.
Pediatrics

M. D. KNIGHT, M.D.
Surgery

W. H. BRAUNS, M.D.
Internal Medicine

ROY E. MOON, M.D.
Obstetrics & Gynecology

CHAS. F. ENGELKING, M.D.
Ear, Nose and Throat

DALE W. HAYTER, M.D.
Ophthalmology

R. A. MORSE, M.D.
Internal Medicine

RALPH R. CHASE, M.D.
Pediatrics

TOM R. HUNTER, M.D.
Surgery

H. W. DISERENS, M.D.
Pediatrics

Consultant in Pathology: LLOYD R. HERSHBERGER, M.D.

Consultants in Radiology: JOHN E. BALLARD, M. D.; JOHN G. BOLEN, M.D.

224-234 W. BEAUREGARD AVE.

J. B. ADCOCK, Administrator

SAN ANGELO, TEXAS



Southwestern General Hospital

Accredited by the Joint Commission on Accreditation of Hospitals

Member Hospital:

American Hospital Association
Texas Hospital Association
Blue Cross of Texas

COTTON AVENUE AND ERIE STREET • EL PASO, TEXAS

OVERTON CLINIC

300 Hughes Building

PAMPA, TEXAS

M. C. Overton, Jr., M.D.

Surgery and Gynecology

E. S. Williams, M.D.

Pediatrics and Obstetrics

J. R. Donaldson, M.D.

Surgery

G. R. Hrdlicka, M.D.

Radiology

C. M. Lang, M.D.

Surgery

R. W. Moore, M.D.

Internal Medicine

DUTTON LABORATORIES

FREDERICK P. BORNSTEIN, M.D.

(Certified by American Board of Pathology)

Pathological Anatomy and Forensic Pathology

RITA L. DON, M.D.

(Associate Fellow, American College of Allergists)

Allergy and Clinical Pathology

JOHN B. FRERICHS, M.D.

(Certified by American Board of Pathology)

Pathological Anatomy and Clinical Pathology

J. A. HANCOCK, Ph.D.

Consultant in Chemistry

616 Mills Bldg.

KE 2-3901

102 University Towers

El Paso, Texas

Give Us A Trial On Your

TAYLOR BACK BRACE

Orders

- Send the following measurements: from level of shoulders to tip of sacrum; circumference of pelvis above trochanters; circumference of waist; height and weight.

CHRISTOPHER'S BRACE AND LIMB CO.

2231 Montana St.

KE 2-9690

EL PASO, TEXAS

UNIFORMS

Doctors • Nurses • Interns • Technicians

Poplin, Nylon, Dacron
White and Colors

SURE-FIT UNIFORM CO.

612 N. Oregon St.

KE 2-1374

El Paso, Texas

C. G. McDow and Son, Props.

Rio Grande Pharmacy

419-421 South Stanton St. KE 2-4473 El Paso, Texas

Only At The Popular In El Paso . . .
STACY ADAMS FOOTWEAR

POPULAR DRY GOODS CO.



GUNNING & CASTEEL DRUG STORES

"There is no finer prescription service . . . anywhere"

14 Conveniently Located Stores

El Paso, Texas

TAYLOR-SIMPKINS, INC.

MEDICAL OXYGEN

2123 Texas St.

KE 3-0952

El Paso, Texas

Nights — Call LO 5-0359, or LO 5-3060



MEDICAL CENTER PHARMACY

YOUR PROFESSIONAL PHARMACY
IN THE NEW MEDICAL CENTER

PHONE 2-6968-69

1501 ARIZONA ST.

EL PASO, TEXAS

We Carry A Complete Line of

DIABETIC FOODS AND SUPPLIES

McKEE PRESCRIPTION PHARMACY

107 East San Antonio Ave., El Paso

Dial KE 2-2693

For Your Convenience

Use Our Handy Charge-A-Plate Service!

the white house

El Paso, Texas

RICHARD E. MARTIN

MARTIN MORTUARY

Dial KE 2-3691

710 N. Stanton St.

El Paso, Texas

HARDING AND ORR

Funeral Home

EL PASO, TEXAS

320 Montana Ave.

KE 3-1646

Kaster & Maxon

Funeral Home

El Paso, Texas

KE 2-3431

How Does DEVEREUX Serve the Retarded Child?

DEVEREUX SCHOOLS have provided, for nearly fifty years, educational and treatment facilities for children and young adults with impaired intellectual or neurological functioning. A comprehensive pre-enrollment evaluation of each child determines his placement in one of the homogeneous, separate, and self-contained school or community units. Experienced physicians, psychiatrists, psychologists, and educational and vocational specialists attend the child, assess his capabilities, and institute a program to develop them to the fullest extent. Each child benefits from individual instruction and proven training techniques.

Physicians and parents in the Southwest please write direct to
Devereux Schools of Texas, Box 336, Victoria, Texas.

JOHN M. BARCLAY, *Administrator*

GEORGE A. CONSTANT, M.D., *Psychiatric Consultant*

WILLIAM A. GOODSPEED, M.S., *Psychologist*

THE DEVEREUX FOUNDATION

A nonprofit organization

Founded 1912

Devon, Pennsylvania

Santa Barbara, California

Victoria, Texas

**SCHOOLS
COMMUNITIES
CAMPS
TRAINING
RESEARCH**

HELENA T. DEVEREUX

Administrative Consultant

EDWARD L. FRENCH, Ph.D.

Director

WILLIAM B. LOEB

Treasurer



Located in the heart of the beautiful Phoenix citrus area near picturesque Camelback Mountain, the hospital is dedicated exclusively to the treatment of psychiatric and psychosomatic disorders, including alcoholism.

Camelback Hospital



5055 North 34th Street
CRestwood 7-7431
PHOENIX, ARIZONA

OTTO L. BENDHEIM, M.D., F.A.P.A., MEDICAL DIRECTOR

Constant care,

supervision and companionship are an integral part of the therapy program at Camelback Hospital.

Whether patients prefer restful hobbies such as TV viewing, reading, conversing in the modern, comfortable rooms,

or enjoy more active out-of-doors recreation, highly-trained, registered nurses are always nearby



Front View — Enclosed Patio

Sandia Ranch Sanatorium, Inc.

Rt. 4, Box 4104

Diamond 4-1618

Albuquerque, New Mexico

Licensed by State Health Department as a Psychiatric Hospital of 68 Beds
For the Care and Treatment of Nervous or Mental Disorders

VARIOUS ACCEPTED FORMS OF THERAPY AVAILABLE

OCCUPATIONAL THERAPY AND OUTDOOR ACTIVITIES

CLINICAL LABORATORY AND ELECTROENCEPHALOGRAM

LIMITED FACILITIES FOR DOMICILIARY CARE

Favorable Year Round Climate — 20 Acres Landscaped Grounds

JOHN W. MYERS, M.D., Medical Director

ALAN JACOBSON, M.D., Psychiatrist

HENRY T. PENLEY, M.D., Psychiatrist

Iron And Catalysts

NEW

IROMIN-G

No Fish Oils
No Disagreeable Odor

Hematinic
Therapeutic Vitamins
Essential Minerals

Mission PHARMACAL CO.
SAN ANTONIO, TEXAS

Southwestern Surgical Supply Company

Your Complete Source in The Southwest
For All
Ethical Medical Equipment
and Supplies

EL PASO

ALBUQUERQUE

PHOENIX

SOUTHWESTERN MEDICINE



a more effective,
more pleasant
way to treat
dry...itchy skin

Alpha-Keri®

*water dispersible, antipruritic oil
for the bath or shower*

Alpha-Keri makes dry skin feel soft and smooth immediately . . . soothes the skin and stops itching. Alpha-Keri deposits a microfine, lubricant-moisturizing oil film over the entire skin area . . . hydrating the keratin and preventing it from drying out. It is particularly effective in replacing the action of skin lipids lost by the dehydrating effects of soap, water and weather. Alpha-Keri may be added to the bath or sponged on the wet skin while showering.

Alpha-Keri is the first and only completely water-dispersible, antipruritic oil combining mineral oil and a keratin moisturizer. Contains Kerohydric® (brand of dewaxed, oil-soluble, keratin-moisturizing fraction of lanolin), mineral oil and a special nonionic emulsifier. Alpha-Keri disperses immediately and completely in water. Available in bottles of 8 fl. oz.

Write for samples and literature.

WESTWOOD PHARMACEUTICALS, BUFFALO 13, NEW YORK

In the school-age child...

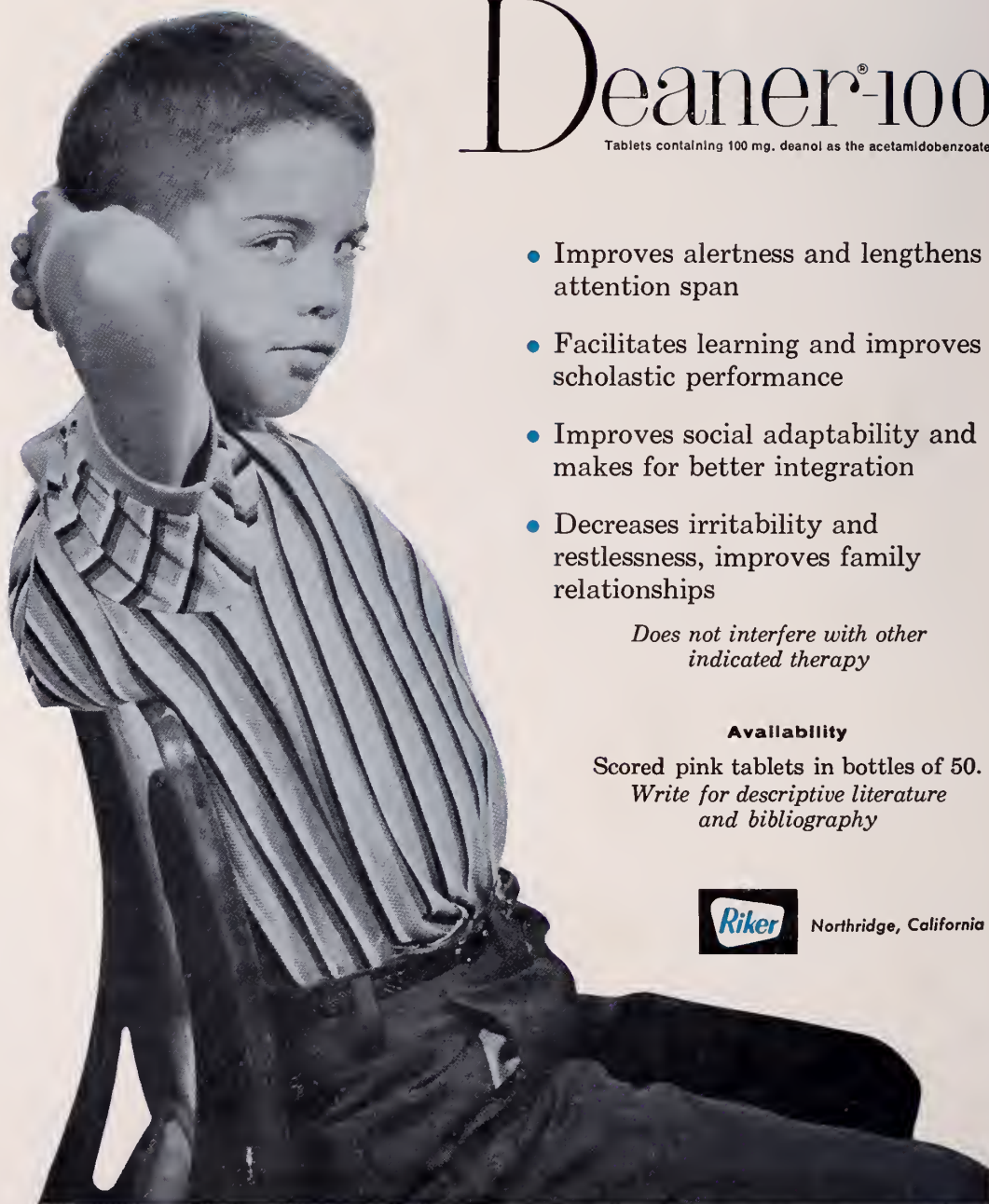
when learning
lags behind
intelligence

and

behavior problems
disturb
the family

Deaner[®]-100

Tablets containing 100 mg. deanol as the acetamidobenzoate



- Improves alertness and lengthens attention span
- Facilitates learning and improves scholastic performance
- Improves social adaptability and makes for better integration
- Decreases irritability and restlessness, improves family relationships

Does not interfere with other indicated therapy

Availability

Scored pink tablets in bottles of 50.
Write for descriptive literature and bibliography



Northridge, California

Janet Doe, Librarian
New York Academy of Medicine
2 East 103 Street
New York 29, New York

Southwestern MEDICINE

Official Journal of The Southwestern Medical Association, The Western Association of Railway Surgeons, The Texas Orthopaedic Association, The Southwest Obstetrical and Gynecological Society, The Southwestern Dermatological Society, Texas District One Medical Association, The Southwestern New Mexico Medical Society, and El Paso County Medical Society

IN THIS ISSUE

New Mexico Medical Society to Meet in Santa Fe, May 17-20	Page 165
A Review of Infant Mortality in New Mexico and the Bordering Mexican States (Section 1)	Page 168
Arthritis; Biochemical Suffocation	Page 173
Tumors of the Renal Pelvis	Page 176

COMPLETE CONTENTS ON PAGE 108

UNIVERSITY
OF MICHIGAN
APR 17 1961
LIBRARY

VOL. 42, NO. 4

April, 1961



Founded 1916

*What does high "ABA"
mean to you?*

High serum levels of antibacterial activity mean fewer treatment failures in severe infections or in infections only marginally sensitive to penicillin. In other words, high "ABA" means . . .

*consistently dependable
clinical results*



V-CILLIN K[®]

(penicillin V potassium, Lilly)

intense antibacterial activity

V-Cillin K produces greater antibacterial activity in the serum against the common pathogens than any other oral penicillin.¹⁻³

unsurpassed safety

No form of penicillin has been shown to be less allergenic or less toxic than V-Cillin K.^{4,5}

proved clinical effectiveness

Documented experience with penicillin V and potassium penicillin V reveals the clinical excellence of V-Cillin K.

*Eli Lilly and Company
Indianapolis 6, Indiana, U.S.A.*

Now at lower cost to your patient

Prescribe V-Cillin K, in scored tablets of 125 and 250 mg., or V-Cillin K, Pediatric, in 40 and 80-cc. bottles.

References

1. McCarthy, C. G., and Finland, M.: Absorption and Excretion of Four Penicillins, *New England J. Med.*, 263:315, 1960.
2. McCarthy, C. G., Hirsch, H. A., and Finland, M.: Serum Levels after Single Oral Doses of 6-(α -phenoxypropionamido) Penicillanate and Penicillin V, *Proc. Soc. Exper. Biol. & Med.*, 103:177, 1960.
3. Griffith, R. S.: Comparison of Antibiotic Activity in Sera after the Administration of Three Different Penicillins, *Antibiotic Med. & Clin. Therapy*, 7:129, 1960.
4. Editorial: *New England J. Med.*, 263:361, 1960.
5. Editorial: *New York J. Med.*, 60:498, 1960.



does the bowel take kindly to no-bulk diets?

The bowel, designed to operate best under the stimulus of a bolus of waste, is seldom at rest under normal conditions. But the new bulkless liquid diets which have taken the country by storm, although they may be a useful road to weight loss, may also lead to constipation or bowel irregularities.


Metamucil adds a soft, bland bulk to the bowel contents to stimulate normal peristalsis and also retain water within the stools to keep them soft and easy to pass. Thus Metamucil, with an adequate water intake, will avert or correct constipation in the dieting patient. Metamucil also promotes regularity through "smoothage" in all types of constipation.

SEARLE

Metamucil[®]

brand of psyllium hydrophilic mucilloid

Available as Metamucil powder in 4, 8 and 16 oz. cans, or as the new lemon-flavored Instant Mix Metamucil in cartons of 16 or 30 measured-dose packets.



Like oil on trouble waters

When smooth muscle spasm
gets rough on your patients...



TABLETS • CAPSULES • ELIXIR • EXTENDED RELEASE

In each Tablet, Capsule or tsp. (5 cc.) of Elixir			
Hyoscyamine sulfate	0.1037 mg.	0.311	
Atropine sulfate	0.0194 mg.	0.058	
Hyoscine hydrobromide	0.0065 mg.	0.019	
Phenobarbital	($\frac{1}{4}$ gr.) 16.2 mg.	($\frac{3}{4}$ gr.) 48	

*Prescribed by more physicians
than any other antispasmodic*



DONNATAL[®]



NATURAL BELLADONNA ALKALOIDS PLUS PHENOBARBITAL

H. ROBINS CO., INC., RICHMOND 20, VIRGINIA • Ethical Pharmaceuticals of Merit since 1878

Southwestern Medicine

*The U. S.-Mexico Regional Medical Journal Serving West
Texas, New Mexico, Arizona, Nevada and Northern Mexico*

Official Journal of

The Southwestern Medical Association, The Western Association of
Railway Surgeons, The Texas Orthopaedic Association, The
Southwest Obstetrical and Gynecological Society, The
Southwestern Dermatological Society, Texas District
One Medical Association, The Southwestern New
Mexico Medical Society, and El Paso County
Medical Society

EDITOR Lester C. Feener, M.D.
404 Banner Building, El Paso, Texas

MANAGING EDITOR Louis W. Breck, M.D.
1220 North Stanton Street, El Paso, Texas

ASSOCIATE EDITORS
Branch Craige, M.D. Maurice P. Spearman, M.D.

ADVERTISING AND SUBSCRIPTION OFFICES
Mott, Reid & McFall
Publishers
310 N. Stanton St., El Paso, Texas
Publication Office
265 Texas St., Fort Worth, Texas
Subscription Price \$5.00 — Single copies 50c
Published Monthly

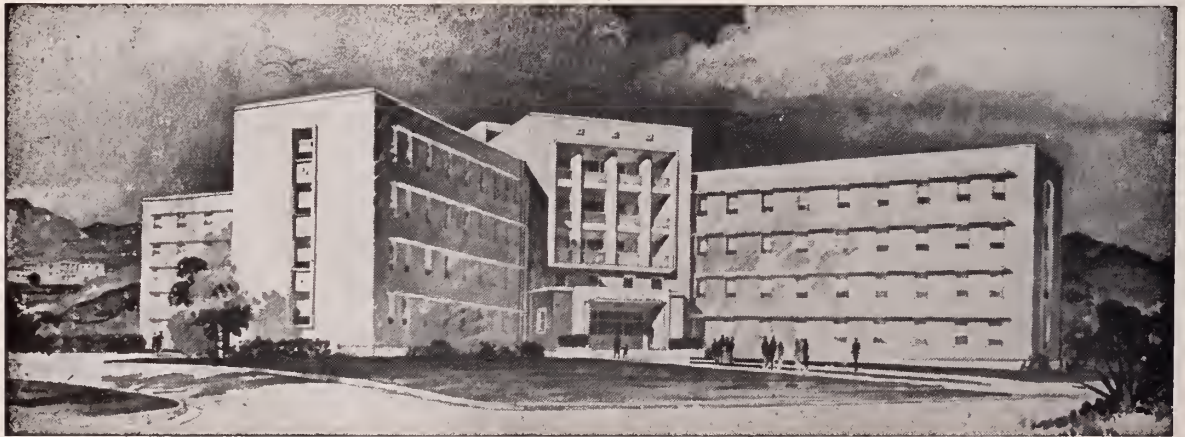
VOL. 42 APRIL, 1961 No. 4

BOARD OF MANAGERS

Sherwood Burr, M.D.	Leland Evans, M.D.
Harold J. Beck, M.D.	Darwin Neubauer, M.D.
David Russek, M.D.	Carlos Tapia, M.D.
M. D. Thomas, M.D.	Louis W. Breck, M.D.
John Dettweiler, M.D.	H. D. Garrett, M.D.
Russell L. Deter, M.D.	Jack A. Bernard, M.D.
Louis G. Jekel, M.D.	Morton H. Leonard, M.D.
John F. Wanless, M.D.	

Gordon M. Marshall — National Advertising Representative
30 West Washington Street, Chicago, Ill., Dearborn 2-5148;
Eastern Office — John H. Hinse, Room 340, 15 West 44th Street
New York 36, Oxford 7-5262.

Second-class mail privileges authorized at Fort Worth, Texas
Postmaster: All undeliverable copies returnable under Form 3579
should be to Southwestern Medicine, 310 North Stanton Street,
El Paso, Texas.



Providence Memorial Hospital

The Modern Hospital of the Southwest

APPROVED BY THE JOINT COMMISSION ON ACCREDITATION OF HOSPITALS

COMPLETE DIAGNOSTIC and TREATMENT FACILITIES
ISOTOPE THERAPY AND STUDIES COBALT 60 ROTATIONAL THERAPY UNIT
OUTSTANDING CHEMISTRY LABORATORY
FACILITIES FOR PSYCHIATRIC THERAPY ELECTROENCEPHALOGRAPHIC LABORATORY
2001 North Oregon Street • El Paso, Texas

new Tandearil®

brand of oxyphenbutazone

Geigy

inflammation takes flight



a new development in nonhormonal, anti-inflammatory therapy

more specific than steroids—

Acts directly on the inflammatory lesion without altering pituitary-adrenal function . . . without impairing immunity responses.^{6,11}

more dependable than enzymes—

Rapid and complete absorption, without the uncertainty of oral or buccal enzyme therapy.⁶

more potent than salicylates—

Anti-inflammatory potency of Tandearil markedly superior to aspirin.¹²

Remarkably useful in a wide variety of inflammatory conditions, including: rheumatoid arthritis, spondylitis, osteoarthritis^{1,2,3}; gout^{1,4,5}; acute superficial thrombophlebitis^{6,7}; painful shoulder (peritendinitis, capsulitis, bursitis, and acute arthritis of that joint)^{1,4}; severe forms of a variety of local inflammatory conditions^{6,9,10}.

The physician should be thoroughly familiar with the dosage, side effects, precautions and contraindications of Tandearil before prescribing. Full product information available on request.

availability:

Round, tan, sugar-coated tablets of 100 mg. in bottles of 100 and 1000.

references:

1. Graham, W.: Canad. M.A.J.: **82**:1005 (May 14) 1960.
2. Vaughn, P. P., Howell, D. S., and Kiem, I. M.: Arth. and Rheumat. **2**:212, 1959.
3. O'Reilly, T. J.: J. Irish M.A. **46**:106, 1960.
4. Connell, J. F., Jr., and Rousselot, L. M.: Am. J. Surg. **98**:31, 1959.
5. Brodie, B. B., et al., in Contemporary Rheumatology 1956, p. 600.
6. Stein, I. D.: Ann. N. Y. Acad. Sc. **86**:307 (March 30) 1960.
7. Barczyk, W., and Röth, W.: Praxis **49**:589, 1960.
8. Miller, J. M., et al.: Antibiotic Med. and Clin.

- Therap. **7**:109, 1960.
9. Connell, J. F., Jr., and Rousselot, L. M.: Am. J. Surg. **97**:429, 1959.
10. Summary of individual case histories submitted to Geigy.
11. Domenjoz, R.: Ann. N. Y. Acad. Sc. **86**:263, 1960.
12. Smyth, C. J.: Ann. N. Y. Acad. Sc. **86**:292, 1960.

Geigy Pharmaceuticals
Division of Geigy Chemical Corporation
Ardsley, New York
545-61

Contents

New Mexico Medical Society to Meet in Santa Fe, May 17-20; Complete Program	Page 165
A Review of Infant Mortality in New Mexico and the Bordering Mexican States (Section I) By Roy F. Goddard, M.D., Albuquerque; Stanley J. Leland, M.D., Santa Fe; and John C. Cobb, M.D., Baltimore	Page 168
Postgraduate Course to Be Presented	Page 172
Arthritis; Biochemical Suffocation By R. P. Watterson, M.D., Scottsdale, Ariz.	Page 173
Tumors of the Renal Pelvis By Robert F. Thompson, M.D., F.A.C.S., El Paso	Page 176

COMING MEETINGS

Texas Chapter, American College of Chest Physicians, Annual Meeting, Moody Convention Center, Galveston, April 23, 1961.

Texas Orthopaedic Association, Annual Meeting, Galveston, Texas, April 24, 1961.

Arizona Medical Association, 70th Annual Meeting, Scottsdale, Arizona, April 26-29, 1961.

New Mexico Medical Society, 79th Annual Meeting, La Fonda Hotel, Santa Fe, May 17-20, 1961.

United States-Mexico Border Public Health Association, Annual Meeting, San Diego, June 25-29, 1961.

Postgraduate Course in Pediatrics, The University of Colorado School of Medicine, Stanley Hotel, Estes Park, Colorado, August 21-25, 1961.

Western Association of Railway Surgeons, Annual Meeting, Holiday Hotel, Reno, Nev., Sept. 28-30, 1961.

Southwest Obstetrical & Gynecological Society, Eleventh Annual Meeting, Konakai Club, San Diego, Oct. 15-17, 1961.

Southwestern Medical Association, 43rd Annual Meeting, Tropicana Hotel, Las Vegas, Nev., Oct. 19-21, 1961.



Schering

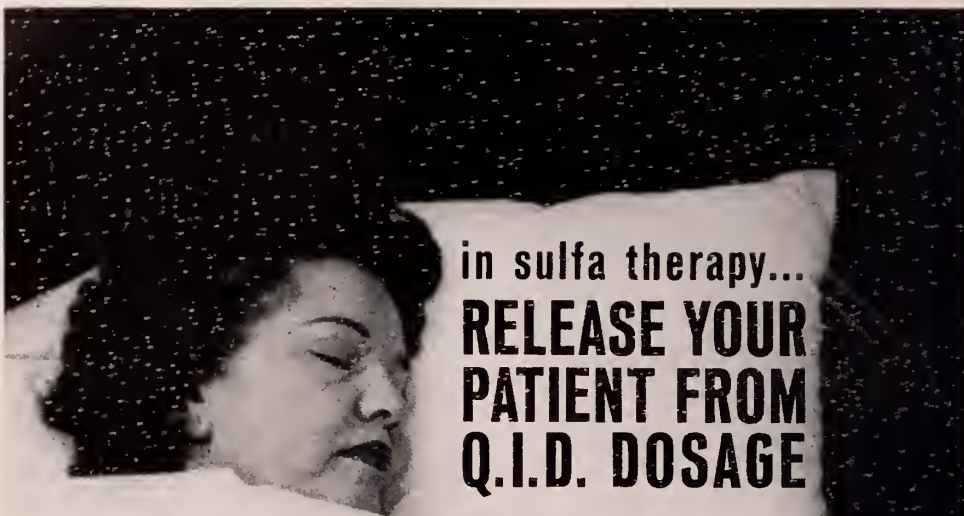
SEASONAL ALLERGIC CORYZA? An air-conditioned, pollen-free room is a part-time help...In any case, the allergic symptoms are well controlled with **CHLOR-TRIMETON[®]**

CHLORPHENIRAMINE MALEATE

Supplied as 4 mg. tablets, 8 and 12 mg. REPETABS,[®] and Syrup, 2 mg./4 cc.

S-717

POLLEN?



in sulfa therapy...
**RELEASE YOUR
PATIENT FROM
Q.I.D. DOSAGE**

just one tablet of Midicel provides continuous, effective blood levels for 24 hours

Because many patients need take only 1 tablet daily, therapy with MIDICEL is convenient and economical. It is also advantageous since the possibility of omitted doses is reduced. Rapidly absorbed and slowly excreted, MIDICEL assures dependable bacteriostatic action in urinary tract infections, certain respiratory infections, bacillary dysenteries, as well as surgical and soft-tissue infections caused by sulfonamide-sensitive organisms. And with MIDICEL, there is little likelihood of crystalluria because of its high solubility and low dosage.

MIDICEL (sulfamethoxypyridazine, Parke-Davis), 3-sulfanilamido-6-methoxypyridazine. Tablets of 0.5 Gm.; Suspension, each cc. containing 50 mg. of sulfamethoxypyridazine as the N¹acetyl derivative.
Indications: Gram-negative and gram positive infections such as urinary tract, respiratory, and soft-tissue infections and bacillary dysenteries.
Dosage: Orally once a day until asymptomatic for 48 to 72 hours. Adults:— 1 Gm. initially, followed by 0.5 Gm. daily thereafter or 1 Gm. every other day. In severe infections, not to exceed 2 Gm. the first day, then 0.5 to 1.5 Gm. daily according to weight of patient and severity of infection.

Children:— 30 mg. per Kg. the first day, then 15 mg. per Kg. daily. In severe infections, up to 50 mg. per Kg. initially, then 25 mg. per Kg. daily. Total dose in children, however, should not exceed lower dosage limits for adults. **Precautions:** Continue daily doses higher than 0.5 Gm. no longer than three to five days without checking for blood levels above therapeutic range. Maintain adequate fluid intake during therapy and for 48 to 72 hours afterward. Until further definitive information is available, MIDICEL, in common with all sulfonamides, is contraindicated in the premature and newborn infant. Contraindicated in patients with a history of sulfa sensitivity. MIDICEL is not recommended for meningococcal infections. **Side Effects:** Anorexia and lassitude may occur as may reactions such as drug fever, rash, and headache, all of which are indications for discontinuing the drug. Leukopenia has been reported. Periodic blood counts are advised. Patients with impaired renal function should be followed closely since excessive accumulation may occur.

AVAILABLE: Quarter-scored tablets of 0.5 Gm., bottles of 24, 100, and 1,000.

40061

Midicel®

(sulfamethoxypyridazine, Parke-Davis)

and for children... Midicel Acetyl Suspension (N¹ acetyl sulfamethoxypyridazine, Parke-Davis) • delicious butterscotch flavor • only one dose a day

PARKE-DAVIS

PARKE, DAVIS & COMPANY, Detroit 32, Michigan

FOR EFFECTIVE FLUID MAINTENANCE THERAPY

ISOLYTE® M

Composition per Liter

Dextrose Gm.	Milliequivalents					Calories	mOs.
	Na ⁺	K ⁺	Cl ⁻	Lact ⁻ *	HPO ₄ ⁼		
50	40	35	40	20	15	180	400

*Bicarbonate precursor



DON BAXTER, INC. • GLENDALE, CALIFORNIA

Safety through simplicity



DON
BAXTER,
INC.
GLENDALE,
CALIFORNIA



Q
U
A
L
I
T
Y

P
A
P
E
R
S

TIDI

EXAMINATION TABLE ROLLS

All Sizes Available
Smooth and Crepe Paper

PROFESSIONAL TOWELS

Best Quality Cellulose
White and Green

ASK YOUR SUPPLIER FOR TIDI.

TIDI PRODUCTS are always of best quality,
uniform, and economical in use.

Distributed throughout the USA

M'fd. by TIDI PRODUCTS, Pomona, California

New...

SMALL

ODORLESS

EASY-TO-TAKE

TASTELESS

prulet

Laxative

The active ingredient:
is analogous to a sub-
stance found in prunes.
Is not absorbed from
the digestive tract.

Mission
PHARMACAL CO.

SAN ANTONIO, TEXAS

**New approach
to acne**



pHisoHex[®] and pHisoAc[®] Cream

"No patient failed to improve" when pHisoHex (containing 3 per cent hexachlorophene) was added as the antibacterial wash to the standard treatment for acne. pHisoHex provides not only superior cleansing but also continuous antibacterial action for patients with acne. Now, with new pHisoAc keratolytic cream the management of patients with acne is simplified and even more effective. pHisoAc is applied topically once or twice daily to suppress and mask lesions and to dry, peel and degerm the skin. When used together, pHisoHex and pHisoAc are a potent complementary combination against acne.

Winthrop

LABORATORIES
New York 18, N. Y.

1. Hodges, F.T.: GP 14:86, Nov., 1956.

pHisoHex and pHisoAc, trademarks reg. U. S. Pat. Off.



HYPAROTINTM

mumps immune globulin

derived from human venous blood

Hyparotin provides prophylaxis against mumps and its complications. Superconcentration permits low dosage volume and minimizes the risk of tissue distention. The mumps antibody content (165 mg. gamma globulin per cc.) is eight times that of the usual immune serum globulin and twenty times that of human mumps immune serum.

Dosage: For mumps prevention in children the minimum suggested dosage is 1½ cc. This dosage is doubled or tripled for children over twelve and adults, depending on weight and delay since exposure. To prevent orchitis in men with clinical symptoms of mumps, administration of five or more times the minimum prophylactic dose as soon after onset of mumps symptoms as possible may provide protection. Transmission of homologous serum jaundice or any serious reaction has not been reported.

For further information
see PDR page 576,
Ask Your Cutter Man
or write to Dept. 1-7D



CUTTER LABORATORIES
Berkeley, California

Leaders in Human Blood Fractions Research

New Mexico Medical Society

To Meet in Santa Fe, May 17-20

The 79th annual meeting of the New Mexico Medical Society will be held May 17-20, 1961, in Santa Fe, N. M., with headquarters in the La Fonda Hotel.

Speakers will be Dr. Edwin L. Kendig, Richmond, Va., Associate Professor of Pediatrics and Director of the Child Chest Clinic at the Medical College of Virginia; Dr. Vincent P. Collins, Professor of Radiology and Chairman of the Department at the Baylor College of Medicine, Houston; Dr. John W. Pender, Palo Alto, Calif., head of the Department of Anesthesiology at the Palo Alto Medical Clinic and Clinical Assistant Professor of Anesthesiology at Stanford University; Dr. Marvin A. Block, Buffalo, Assistant Clinical Professor of Medicine at the University of Buffalo School of Medicine and Chairman of the AMA's Committee on Alcoholism;

Dr. Ben Eiseman, Professor of Surgery at the University of Colorado and Chief of Surgical

Service at the Veterans Hospital in Denver; Dr. Edgar S. Gordon, Madison, Professor of Medicine at the University of Wisconsin; Dr. Robert H. Barter, Professor and Department Head of Obstetrics and Gynecology at the George Washington University School of Medicine in Washington, D. C.; Dr. Horace E. Campbell, Denver, Chairman of the Automotive Safety Sub-Committee of the Colorado State Medical Society and member of the Colorado Citizens Traffic Safety Committee; Dr. John S. Chapinan, Assistant Dean and Professor of Medicine at Southwestern Medical School at Dallas; and John H. Furbay, Ph.D., New York, Director of Trans World Airlines' World-wide Education Program; General Albert Schwichtenberg, M. C. (retired), Albuquerque, Lovelace Foundation; Col. S. W. Cavender, M. C., Albuquerque, Sandia Base; and Dr. North Longfield, Albuquerque, Veterans Hospital.

The complete program is as follows:

PROGRAM

Wednesday, May 17

General Meeting

Santa Fe Room, La Fonda

Presiding: Lewis M. Overton, M.D., Albuquerque,
Immediate Past President,
New Mexico Medical Society

1:30 p.m. Invocation

Sarah Bowen, M.D., Santa Fe
Welcome
Honorable Leo Murphy, Mayor,
City of Santa Fe
Welcome

Fred Soldow, M.D., Santa Fe,
President, Santa Fe County
Medical Society

1:45 p.m. Presidential Address

Allan L. Haynes, M.D., Clovis,
President, New Mexico Medical
Society

First Clinical Session

Presiding: Allan L. Haynes, M.D.

2:15 p.m. Peptic Ulcer Co-existing with
Chronic Pulmonary and Liver
Disease; Clinical and Theoretic
Implications
Ben Eiseman, M.D., Denver

3:00 p.m. Nerve Entrapment Syndrome
Clinton Morgan, M.D.,
Albuquerque

MEETINGS

- 3:15 p.m. Visit Exhibits
- 3:30 p.m. Clinical Pathological Conference
Moderator: William Hentel, M.D.,
Albuquerque
Participants: Edgar S. Gordon,
M.D., Madison, Wis.; Vincent
Collins M.D., Houston; Ben
Eiseman, M.D., Denver; and
Harry Ellis, M.D., Santa Fe

6:30 p.m. Cocktails

7:30 p.m. Specialty Group Dinners

Thursday, May 18

Second Clinical Session

Presiding: William Badger, M.D., Hobbs,
President-Elect,
New Mexico Medical Society

- 9:00 a.m. Lipid Metabolism and
Atherosclerosis
Edgar S. Gordon, M.D.
- 9:45 a.m. The Internal Cardiac Pacemaker
in the Treatment of Stokes-Adams
Syndrome
Alan L. Frankel, M.D.,
Albuquerque
- 10:00 a.m. The Duration of Cancer Prior to
Diagnosis
Vincent P. Collins, M.D.
- 10:45 a.m. Visit Exhibits
- 11:15 a.m. Panel: Pancreatitis
Moderator: Andrew M. Babey,
M.D., Las Cruces
Participants: Edgar S. Gordon,
M.D., Vincent P. Collins, M.D.,
Ben Eiseman, M.D., and Peter
Van Schoonhoven, M.D.,
Albuquerque
Afternoon Free

6:30 p.m. Dinner Dance

Friday, May 19

Third Clinical Session

Presiding: R. C. Derbyshire, M.D., Santa Fe,
Vice-President,
New Mexico Medical Society

- 9:00 a.m. Unclassified Mycobacteria in
Children
Edwin L. Kendig, M.D.,
Richmond, Virginia

- 9:45 a.m. Unusual Varieties of Obstetrical
Hemorrhage
Randolph V. Seligman, M.D.,
Albuquerque

- 10:00 a.m. Ectopic Pregnancy; A Constant
Diagnostic Problem
Robert H. Barter, M.D.,
Washington, D. C.

10:45 a.m. Visit Exhibits

- 11:15 a.m. Monitoring During Anesthesia
John W. Pender, M.D.,
Palo Alto, Calif.

Group Clinical Session A Trauma and Disaster Planning Symposium on Trauma

Co-Chairmen: Harold Fenner, M.D., Hobbs,
Chairman, Accident Prevention
Committee, New Mexico
Medical Society
General Albert Swichtenberg,
MC (retired), Lovelace
Foundation, Albuquerque,
Chairman, Disaster Planning
Committee

- 2:00 p.m. General Principles of Shock
John W. Pender, M.D.,
Palo Alto, Calif.
- 2:30 p.m. Orthopedic Traumatic Problems
John F. Boyd, M.D.,
Albuquerque
- 3:00 p.m. We Are Entitled to Modern Crash
Protection in Our Automobiles
Horace E. Campbell, M.D.,
Denver
- 3:45 p.m. Coffee

Panel on Disaster Planning

- 4:00 p.m. Step by Step Approach to General
Disaster Planning
Col. S. W. Cavender, MC, USA,
Sandia Base, Albuquerque.
- 4:45 p.m. Bernalillo County Medical Associa-
tion's Approach to Disaster Planning
General Albert Schwichtenberg

Group Clinical Session B Alcoholism

Presiding: Richard Angle, M.D., Santa Fe,
Chairman, Program Committee

- 2:00 p.m. General Aspects of the Problem of Alcoholism
Marvin A. Block, M.D., Buffalo
- 3:00 p.m. Psychiatric Aspects of the Problem of Alcoholism
William F. Sears, M.D., Los Alamos, Chairman, Mental Health and Alcoholism Committee
- 3:30 p.m. Coffee
- 3:45 p.m. The New Mexico Situation Regarding Alcoholism
Warren Brown, M.D., Albuquerque, Chairman, Governor's Special Committee on Mental Health
- 4:15 p.m. Panel Discussion
Moderator: Warren Brown, M.D., Albuquerque
Participants: Marvin A. Block, M.D., Buffalo; Charles A. Bee-son, M.D., Albuquerque; Earl Latimer, M.D., Roswell
- 6:30 p.m. Specialty Group Dinners

Saturday, May 20

Symposium on Tuberculosis

Co-Sponsors: Public Health Committee, New Mexico Medical Society and New Mexico Public Health Department

Co-Chairmen: Roy F. Goddard, M.D., Albuquerque, Chairman, Public Health Committee, New Mexico Medical Society; Stanley Leland, M.D., Santa Fe, Director, New Mexico Department of Public Health

The Medical Aspects of Tuberculosis

- 9:00 a.m. Tuberculosis in Childhood
Edwin L. Kendig, M.D., Richmond, Virginia
- 10:00 a.m. Adult Tuberculosis
Sumner Cohen, M.D., Oak Terrace, Minn.
- 11:00 a.m. TBC-Like Pulmonary Syndromes
John Chapman, M.D., Dallas
- 12:15 p.m. Luncheon

42: NO. 4 (APRIL) 1961

Speakers: Joseph Gordon, M.D., Albuquerque, President, New Mexico Tuberculosis Association; North Longfield, M.D., Albuquerque, President, New Mexico Thoracic Society; J. E. J. Harris, M.D., Albuquerque, President, New Mexico Chapter, A.C.C.P.

The Socio-Economic Aspects of Tuberculosis

- 2:00 p.m. The Socio-Economic Aspects of Tuberculosis
Mrs. Ruth Taylor, New York, Representative, National Tuberculosis Association
- 3:00 p.m. Joint Report of the Public Health Committee and the New Mexico Tuberculosis Coordinating Council
Hugh B. Woodward, M.D., Albuquerque
- 4:30 p.m. Panel on New Mexico Tuberculosis Report
Moderator: Stanley J. Leland, M.D.
Participants: Edwin L. Kendig, M.D.; Sumner Cohen, M.D.; John Chapman, M.D.; Mrs. Ruth Taylor

Auxiliary Program Wednesday, May 17

- 9:00 a.m. to
11:30 a.m. Hospitality Coffee
- 11:00 a.m. Executive Meeting

Thursday, May 18

- 9:30 a.m. Delegates Meeting
- 12:30 p.m. Luncheon
Speaker: Mrs. Harlan English, Danville, Ill., President-Elect, Auxiliary to the American Medical Association
- 2:00 p.m. Executive Meeting

The Woman's Auxiliary to the Santa Fe County Medical Society will offer personally conducted tours of Artist's Studios, Museums and Shops of Santa Fe. Arrangements for the various tours can be made at the Auxiliary's registration desk and will be available on Wednesday, Thursday and Friday.

A Review of Infant Mortality in New Mexico and the Bordering Mexican States*†

(Section I)

ROY F. GODDARD, M.D.¹, *Albuquerque*
STANLEY J. LELAND, M.D.², *Santa Fe*
JOHN C. COBB, M.D.³, *Baltimore*

- 1. Director, Pediatric Research Department, Lovelace Foundation for Medical Education and Research, Albuquerque, New Mexico; Consultant in Problems of the Newborn to the New Mexico Department of Public Health; Pediatric Consultant, Navajo Medical Center, Ft. Defiance, Arizona; Chairman, Public Health Committee, New Mexico Medical Society.
- 2. Director, New Mexico Department of Public Health, Santa Fe, New Mexico.
- 3. Assistant Professor, School of Hygiene and Public Health, Johns Hopkins University, Baltimore, Md. (present address: University of Punjab, Lahore, Pakistan); formerly assigned to the Maternal and Child Health Division, United States Public Health Service, Division of Indian Health, Albuquerque Area Office, Albuquerque, New Mexico.

Infant Mortality Rates in New Mexico and the Bordering Mexican States

Introduction

Infant mortality today remains one of the gravest problems facing the states that comprise the membership of this organization, the United States-Mexico Border Public Health Association. Infants dying under the age of one year constitute approximately one-tenth of the total number of deaths from all causes in the United States.¹ The rate is even higher in many countries, and throughout the world, there is no chart of the ten principal causes of death which does not list this problem as one of its most significant.

A comparison of birth rates and neonatal mortality rates of the United States, the state of New Mexico, and Mexico reveals the birth rate to be 25 per 1000 population for the United States, 34 for New Mexico and 45 for Mexico (see fig. 1). The infant mortality rate under the age of one year for the year 1958 was 27 per 1000 live births

for the United States, 37 for New Mexico, and 81 for Mexico.² The implication that a higher birth rate may influence the infant mortality rate exists. Comparative birth rates and infant mortality rates for the Mexican border states are presented in Tables one and two.³

Infant Mortality in New Mexico

We believe that many of the problems that exist in New Mexico today also exist in old Mexico and we, therefore, feel that enlarging on our specific problem in New Mexico may be of value to our sister states along the border.

Birth Rates and Neonatal Mortality Rates
US, N.M., and Mexico
1958

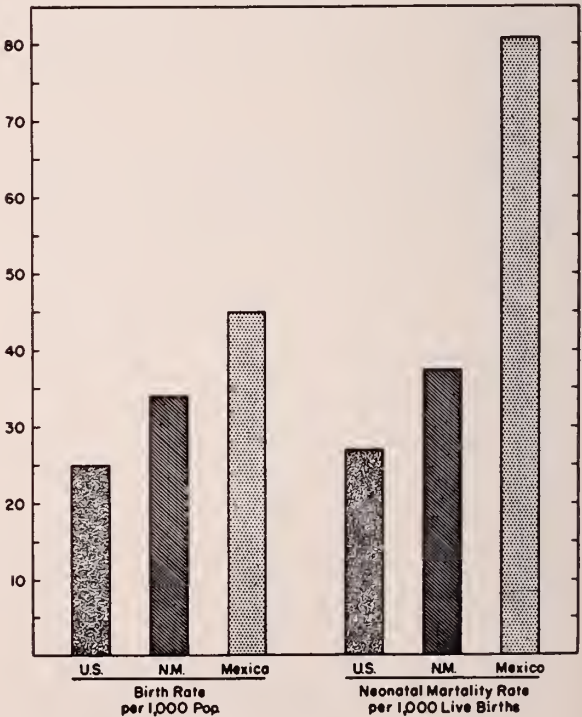


Figure 1

*Presented at the 18th Annual Meeting of the United States-Mexico Border Public Health Association, before the Maternal and Child Health Section, Hermosillo, Sonora, Mexico, April, 1960.

†To be published in three sections in successive issues of SOUTHWESTERN MEDICINE.

For the past several decades New Mexico has had the highest infant mortality rate of any of the 48 states in the United States. (The figures per 1000 live births for the United States, New Mexico, Alaska and Hawaii in 1957 were 26.3, 39.4, 38.0 and 24.0 respectively.)⁴

Figure two, however, shows the progressive decline in infant mortality in the United States and New Mexico from 1944 through 1959, a period of the last 15 years. There has been a drop in the United States from 1944 to 1948, which has remained essentially stationary. The rate for New Mexico in 1945 was 100. This has decreased progressively, step-wise, until in 1959, this past year, we had our lowest mortality rate of 33.4 for the state as a whole*.⁵ We think that many of the programs we have instituted have influenced this progressive drop in mortality rate.

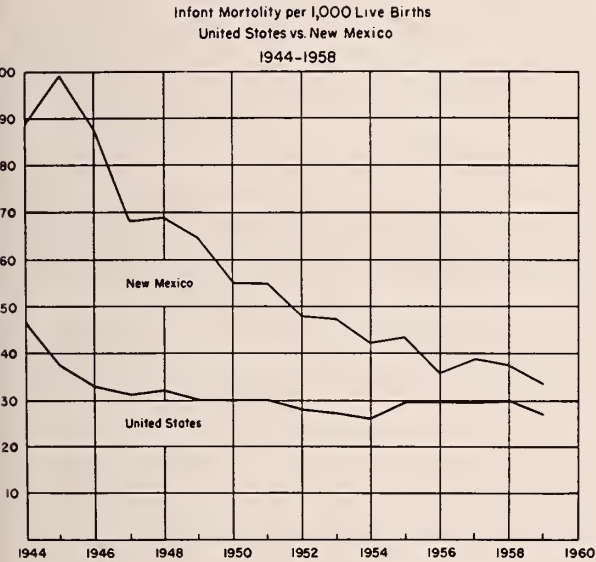


Figure 2

There are many factors which contribute to New Mexico's high infant mortality rate. New Mexico today remains a tricultural state in background, influenced by the Spanish culture and settlement; that of our precursors, the Indians; and our most recent additions the Anglo and other cultural backgrounds, which today constitute our largest group in the state.

If we analyze our infant mortality by races,

Infant Mortality per 1000 Live Births by Races in New Mexico 1958

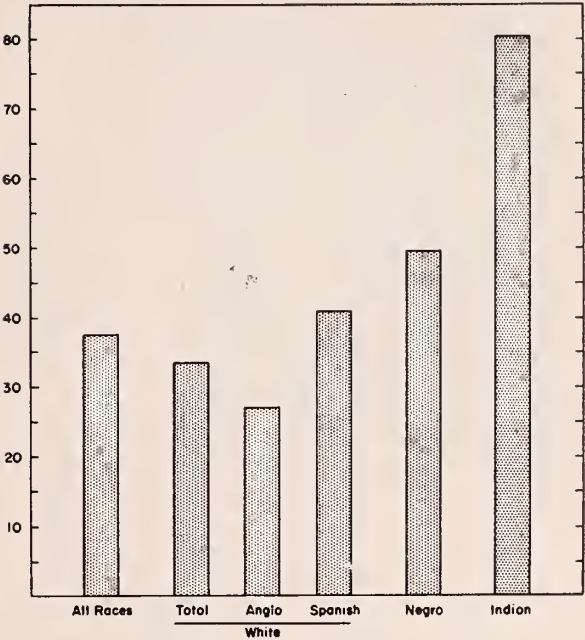


Figure 3

Figure three shows the infant mortality for the state as a whole in 1958 to be 37.4 per 1000 live births; that for the white population, combining all whites, gave a total of 33.4; 27.3 for the Anglo element, and 41 for those of Spanish surname. The mortality rate for Negroes was 49.6 and that for the Indian population 80.3.⁶ This is not to infer that the cultural aspect is the most significant in this differentiation of infant mortality by races.

Figure four is a map of the State of New Mexico with its 32 counties. San Juan and McKinley Counties which are in the northwestern part of the state had a high infant mortality rate, between 80 and 100, per 1000 live births in the years 1950-54.

Another area in the state, midcentrally located, San Miguel County, had a similar high rate. Socorro, Mora, Sandoval, Taos, and DeBaca also had high infant mortality rates. Other counties, such as Los Alamos, Curry, Roosevelt, and Lea, had less than 30 deaths per 1000 live births, and Bernalillo County had 30-39.

In figure five, the infant mortality per 1000 live births in selected counties of New Mexico has been plotted. Lea County had the lowest infant mortality rate in the state with 21.4 per 1000 live

*In 1959 New Mexico ranked seventh among the 50 states of the United States.

INFANT DEATHS PER 1000 LIVE BIRTHS
By Mother's County of Residence
New Mexico 1950-54

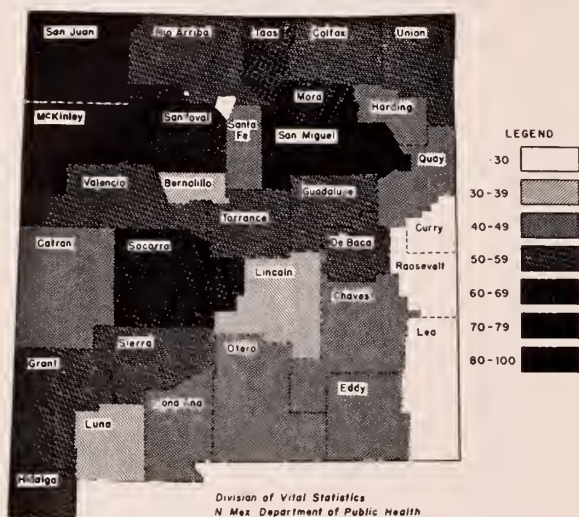


Figure 4

births; Bernalillo County had an intermediate rate, 31.7; McKinley County of the northwestern part of the state had 56.7; and San Miguel County, the highest, had a rate of 57.5. There are certain factors which contribute to the differences in infant mortality in these various counties.⁷

Infant Mortality per 1000 Live Births
in Selected Counties of New Mexico
1959

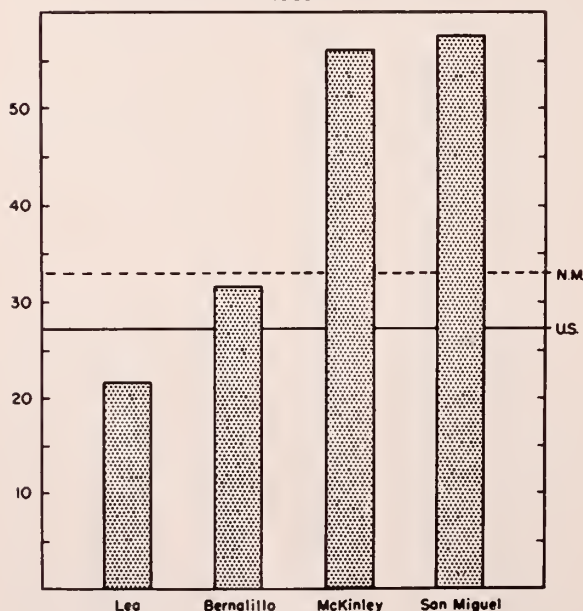


Figure 5

Figure six shows some of these factors. First, compare the 1955 population in these various counties. In Lea and Bernalillo Counties there has been a sizable increase in population; about half this increase in McKinley County, and a decrease of 11 per cent in the population of San Miguel County in this 5-year period.

The relationship of doctors per 1000 population is 0.3 in McKinley and Lea; and 0.5 in San Miguel; and 1.0 in Bernalillo County. The birth rate per 1000 population is low in Lea County and San Miguel County and is relatively high in McKinley and Bernalillo Counties. The infant mortality rate is quite high in McKinley and San Miguel Counties.

The number of premature births ranges from nine to 12 in all counties. As to population by races, Lea County is predominately Anglo; Bernalillo County about two-thirds Anglo; in McKinley County 62 per cent or almost two-thirds are of Indian extraction; and in San Miguel County 77 per cent are of Spanish surname.

The population with an income of less than \$500 per year is over 25 per cent in McKinley and San Miguel Counties; the population with schooling of less than eight years is over 50 per cent in both of these counties; the number of dwelling units with no running water is 40 per cent in both of these counties; the number of dwelling units with no inside toilet is 63 per cent in both of these counties; and the per cent of dwelling units with more than one and a half persons per room is 30 per cent and 44 per cent in these counties, respectively.⁸

Another significant factor in San Miguel County is the high per cent of infants born out of wedlock, 34 per cent. This, we believe, shows some of the factors relating cultural, social and economic influences in these selected counties in New Mexico.

In Figure seven causes of infant death for the State of New Mexico in 1954 and 1958 have been graphed, together with figures for 1959.⁹ Of the total number of deaths, over 20 per cent of these are attributed to immaturity, and the majority of these deaths occur under the age of 28 days.

Immaturity as a cause has decreased slowly in

SOME FACTORS INFLUENCING THE INFANT MORTALITY RATE
IN SPECIFIC COUNTIES IN NEW MEXICO

	Mortality Rate 75-100		Mortality Rate 30-40	
	McKinley 33,800	San Miguel 23,700	Lea 50,206	Bernalillo 205,500
1955 Population				
Per cent Change 1950-55	23	11	63	44
1955 Doctors per 1000 Population	0.3	0.5	0.3	1.0
1955 Birth Rate/1000 pop.	36	14	15	34
1955 Infant Mortality (per 1000 live births)	75	96	39	33
1955 Premature Births (per cent of live births)	10	12	9	11
1950 Population				
% Anglo	23	23	98	68
% Spanish surnames	15	77	2	30
% Other Races (pred. Indian)	62	--	--	2
% Population with income less than \$500/yr	27	27	8	11
% Population over 25 yrs with less than 8 years schooling	49	54	22	22
% Dwelling units with no running water	42	36	6	10
% Dwelling units with no inside toilet	63	63	24	27
% Dwelling units with more than 1.5 persons per room	44	30	15	14
% Infants born out of wedlock	Unknown	34	16	Unknown

N. M. Dept. Vital Statistics
Welfare Invest. Com.
U. N. M. Bus. Res. Bureau

Figure 6

1958 from 22 to 21 and in 1959 to 20½. Probably the next most significant cause of death during this first 28-day period is atelectasis and asphyxia which in 1954 and 1958 was around 10 per cent of the total number of deaths and this rose in 1959 to 13 per cent, presumably because more

babies were signed out as atelectasis and asphyxia in the ensuing years.

The next most significant factor in the neonatal period was birth injuries, and they increased from six to eight in 1954 and 1958 to nine in 1959. Next are congenital malformations which have risen from seven to 10 to 11, respectively, in 1954, 1958, and 1959. However, deaths after the age of 28 days are considerable in this category. At least one-third of the total number of deaths occur after the age of 28 days.

Pneumonia is probably the next most significant factor in the immediate neonatal period, and this as a total cause of death has remained around 13 for all three years. Again about two-thirds of these deaths, ascribed to pneumonia, occurred after the 28-day period. Erythroblastosis remains around one to 1.6 for all three years.

Miscellaneous causes, including other specific causes and unknown ill-defined causes, constitute about 20 per cent of the total number of deaths. Again, a larger portion of these occur after the age of 28 days. The most significant cause of death over the age of 28 days has been diarrhea and dysentery for many years. Considerable progress has been made during the last five years, with the rate falling from 14 to 11 and in 1959 to six and one-half. This shows considerable improvement in the causes of deaths in our older infants, and we hope that this trend will continue in the State of New Mexico.

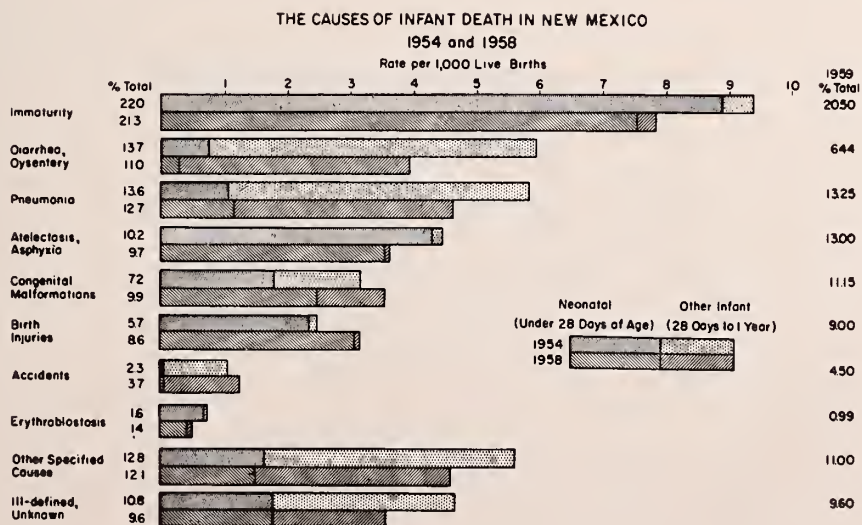


Figure 7

TABLE I
BIRTH RATE IN THE MEXICAN STATES
BORDERING THE UNITED STATES
1954-1957

STATE	1954	1955	1956	1957
Baja California N.	51.2	51.6	48.9	49.5
Baja California S.	44.4	46.0	45.7	46.3
Sonora	55.4	54.4	56.3	57.3
Chihuahua	45.7	45.0	45.4	47.9
Coahuila	47.2	49.4	47.1	47.3
Nuevo León	44.5	45.1	45.6	48.0
Tamaulipas	49.0	46.8	45.4	44.2
Mexico as a whole	46.4	46.4	46.8	46.9

Note—Rates per 1000 inhabitants estimated June 30 of each year.
(From Bureau of Vital Statistics, Mexico, D.F.)

This has been a significant factor in many of the counties that we have talked about previously in this paper and the Public Health and Indian Service are working together with the private practitioners of medicine to eradicate diarrhea and dysentery as an outstanding cause of death over the age of 28 days of life. The trend from Figure

TABLE II
INFANT MORTALITY IN THE MEXICAN STATES
BORDERING THE UNITED STATES
1954-56

STATE	1954	1955	1956
Baja California N.	79.7	71.3	67.9
Baja California S.	73.4	60.5	82.7
Sonora	75.2	72.7	63.8
Chihuahua	92.2	89.5	79.5
Coahuila	82.2	79.7	68.7
Nuevo León	71.4	73.4	53.2
Tamaulipas	54.7	67.6	55.3
Mexico as a whole	80.5	83.3	71.0

Note—Rates per 1000 registered live births.
(From Bureau of Vital Statistics, Mexico, D.F.)

seven shows that immaturity is being used less as a diagnosis, asphyxia and atelectasis more, that there is a rise in causes of death in congenital malformations and birth injuries, and a decrease in some of the other causes of infant death.*

*Principal causes of infant mortality in Mexico for the years 1955-57 were: diseases of early infancy 37.4% of total causes of death, gastroenteritis 21.0%, influenza and pneumonia 20.8% and congenital malformations 2.5%.¹⁰

Postgraduate Course to Be Presented

Pediatric Allergy is the subject of a one day course to be given by the El Paso Division of the University of Texas Postgraduate School of Medicine Sunday, May 21, 1961, in the El Paso County Medical Society's Turner Home at 1301 Montana Avenue in El Paso.

Dr. J. Leighton Green, director, has announced that the Texas Academy of General Practice has approved the course for Category I credit.

Arthritis

Biochemical Suffocation

R. P. WATTERSON, M.D., *Scottsdale, Ariz.*

Although not in general use, knowledge of the cause of arthritis exists, as well as measures necessary for its prevention and treatment. It is the obligation of the medical profession to recognize and use this information. Such measures consist simply of a sound biochemical approach to the problem and the elimination of adrenal steroid therapy as hereinafter explained.

Since it is already generally accepted that pain, fatigue and dysfunction are directly resultant from anoxia, it is practical to examine the physiological manifestations of anoxia. The signs, symptoms and pathologic changes are the same whether the cause of the anoxia is mechanical or biochemical.

Anoxia	
Mechanical	Biochemical
Fatigue	} Reversible
Dysfunction	
Pain	
Atrophy	
Fibrosis	
Death	Irreversible

The majority of clinicians are aware of the relationship between oxygen supply and the changes in structure and function, but most have failed to correlate the known biochemical data, recognized pathology and physiologic response.

Results of Anoxia

Recognized as being the result of anoxia are: complaints of fatigue and decreased endurance at high altitudes and with cardiac failure, emphysema and asthma; the cerebral dysfunction with senile arteriosclerosis; the anoxic distress of angina pectoris and intermittent claudication; the atrophic deformity of Volkmann's contracture (presenting atrophy and secondary fibrosis from prolonged mechanical anoxia); and the sclerodermatous changes about the ankles of patients with long-standing varicosities.

We are familiar with the inactivation of the

cytochrome enzymes with cyanide, the carbon monoxide inactivation of hemoglobin and the formation of methemoglobin with exposure to nitrites, the resultant death being nothing more or less than biochemical suffocation.

Regardless of specific diagnosis, the following conclusions appear indicated:

1. Persistent fatigue is collateral with decreasing cellular oxidative capacity.
2. Acute or chronic anoxia augments existing dysfunction, regardless of the system involved.
3. The role of anoxia in atrophy of tissue must be considered before the inquiry is complete.
4. Fibroplasia is the direct expression of prolonged anoxia.
5. Nature induces a regional anoxia to stimulate the repair-healing-dehydration mechanism.
6. Tissue death, local or general, is always due to anoxia, however incited.

Factors

Factors common to all forms of arthritis are: hyalinization of connective tissue, pain, progressive accumulation of fibrous tissue and disturbance of joint morphology.¹⁻¹¹ Often these factors go unnoticed until the pain or decrease in mobility become acute. The physician can employ measures which will arrest the progressive fibroplasia and produce gradual mobilization and metabolism or excretion of the accumulated pathologic tissues. Such measures include nutritional guidance, increase in magnesium and trace mineral ingestion, reduction of exposure to toxic chemicals and heavy metals such as lead, and supplementation with etioporphyrin, type III, to facilitate synthesis and maintain adequate titers of heme-derived enzymes.

Physicians should consider the known relationships between the porphyrinic enzymes, oxidative mechanisms and the total functional capacity of the individual patient. Failure of medical educators to disseminate this information is inexcusable. Without this knowledge physicians cannot intelligently prescribe preventive or curative schedules.

Treatment

The adrenal atrophy which accompanies corticosteroid therapy undermines the entire biochemical stability of the patient. The observed complications of hypertension, psychoses, visceral perforation, skeletal demineralization and probable reduction of resistance to carcinogenesis con-

traindicates the use of corticosteroids in any disease.

Elimination of corticosteroids necessitates a total program effective for treatment and prevention. The patient must be instructed to maintain a long-range program to improve his physical fitness. It is most effective if it includes reduction of intake of magnesium-low and mineral-low foods (refined sugar, karo and white flour); reduction of lead intake by elimination of tea, aluminum cookware and tobacco; elimination of milk to withdraw growth-stimulating factors and the possibility of viral seeding; substitution of vegetable oils and butter to replace hydrogenated fats, thus increasing the intake of linoleic acid; the maintenance of vitamin E intake to insure the antioxidant activity provided by the tocopherols. A long-range demand for non-essential yet calorically-valuable tissue components must be created by reducing total food intake¹²⁻²⁵.

Following is an initial diet recommended for new patients, found satisfactory for the majority. Avoidance of foods to which the patient is specifically allergic is recommended.

Breakfast: Meat, any type, steak preferred, to include some fat; Eggs; Vegetable juice; Postum, Sanka or black coffee.

Lunch: Fish, fowl, seafood, or buttermilk; Chef's type salad, oil-vinegar dressing; soup; one or two yellow or green vegetables seasoned with salt, butter, cayenne red pepper.

Dinner: Salad, any type dressing; One green or yellow vegetable; Fresh fruit or melon; Brown rice or cooked cereal, not to exceed three times weekly.

Progressive exercise schedules are mandatory and must be maintained to increase joint mobility, flexibility of the spine and increase muscular strength and endurance.

Therapeutic

Item	Comment
*Etioporphyrin, Type III	Hemoproteins are etioporphyrins, type III ²⁷ . Functional improvement and increase in tissue metalloporphyrins is accelerated by supplementation with utilizable porphyrin (Kosaki) ²⁸ .
**Magnesium	Supplementation with absorbable magnesium chelates provides magnesium for the metabolism of non-essential tissues and mobilization of calcium from soft tissue deposits.
B-Complex Vitamins	Israel ²⁹ , reporting a ten-year study, documents the benefits derived by thyroid, B-vitamins and lipotropics in arthritis.

Thyroid

Thyroid extract or iodized threonine preparations enhance intracellular oxidation and proves beneficial in proper dosage in all arthritics.

Patients who have received corticosteroids as part of their previous medication are salt losers because of inadequate corticosteroid titer. As much as one to two teaspoons daily may be found necessary to maintain adequate NaCl serum levels. Temporary intake of up to 10,000 mg. of ascorbic acid daily may be necessary to resaturate these individuals and reestablish capillary integrity. These measures are applied to osteoarthritis, rheumatoid and gouty alike, since they are directed toward a reduction in stroma and an increase in parenchyma.

The specific use of uricosuric agents and colchicine in gouty arthritis needs no discussion. Patients having a history of lead poisoning or excessive smoking and those with porphyrinuria benefit from EDTA taken over a period of three to five months. Ice packs applied to painful hot joints and bursitis are indicated instead of heat. Estrogenic and androgenic hormone supplementation is advisable where anabolic mechanisms can be stabilized with this addition to the treatment schedule.

Clinical Evaluation

Clinical evaluation of the aforementioned factors in treatment has been under investigation in my office for the past twelve years. These various factors have been controlled singly and in combination to gain impressions as to the validity of the concept that they are essential parts of a program designed to promote total physical fitness.

For the past five years, more than fifty per cent of my practice has been devoted to the care of arthritics. The long-range clinical course of these patients has convinced me that arthritis need not be a chronic disease if the patient has sufficient fortitude and self-discipline to maintain a total program guided by the foregoing recommendations.

During the past three years, 250 patients have been closely observed on the specific therapy as outlined. The following results are characteristic.

Grade I rheumatoid arthritics usually become asymptomatic within two months requiring minimal medication; grades II and III rheumatoid arthritics, who have not had previous corticosteroid therapy, show progressive ameliorization of their disease during periods ranging from four months to a year.

The majority of grade III and IV rheumatoid arthritics seen have had previous corticosteroid therapy. The deterioration produced by this treatment is a major factor in delaying and sometimes making impossible the return to a state of health. When joint destruction has occurred, prosthetic surgery or fusion is often desirable.

Improvement in this group is markedly delayed and often completely inhibited if the patient will not cease smoking. In the same group, when excessive waterlogging occurs, it is sometimes necessary to instruct the patient in the practice of short fasts extending from four to ten days.

Withdrawal of collagen and fibrous tissue components is evidenced by the contouring of joints, decrease in size and number of subcutaneous nodules, improved peripheral circulation, increased flexibility of the spine, decrease in the size of Heberden's nodes, decrease in the size of localized fibromata in muscle and improved elasticity of the subcutaneous tissues.

During mobilization of these collagen deposits, regional pain may develop for a short period of time. As the hyalinized material is depleted from the area, these symptoms subside.

Porphyrin supplementation markedly improves arthritics, regardless of classification. These patients show a rapid return to a more normal blood count, a normalization of blood pressure and cholesterol levels, a marked increase in endurance, increased mental alertness and improvement in their total sense of well-being, with a decrease in pain and increased resistance to infection²⁹⁻³³.

Pain relief in the majority of these patients can be adequately obtained from minimal salicylate therapy. The increased magnesium intake appears to reduce muscle spasm and irritability, and has a definite inhibitory action on the development of acute synovitis. Disappearance of toxic porphyrinuria, which is present in a surprising number of these patients, has also been noted.

Porphyrin and magnesium supplementation can be continued indefinitely; however, the majority of patients, by trial and error, determine when this supplementation can be satisfactorily discontinued, and often request reinstatement of these supplements when symptoms develop. It is my personal opinion that these supplements are indicated until the major quantity of non-essential tissue has been mobilized and metabolized.

The satisfaction of observing progressive patient improvement, after years of chronic disabling illness, will prevent me from ever returning to a strictly symptomatic treatment approach in arthritic disease.

Summary

A concept of arthritis is presented which correlates the symptoms, clinical manifestations and progressive pathologic changes to the mechanisms of oxidative metabolism. Systemic treatment by a total program for improving physical fitness, which includes factors for improving metabolic balance, a rational pattern of nutritional selection with specific magnesium and porphyrin supplementation, is outlined.

The clinical results observed over a period of years in a large number of arthritics in my practice, in which these measures have been employed, are reported. Porphyrin* and magnesium** supplementation is believed to be major factors in the patient's improvement.

Bibliography

1. Comroe, B. I.: *Arthritis and Allied Conditions*, Lea & Febiger, Phila., 1944.
2. Karsner, H.: *Human Pathology*, J. B. Lippincott Co., Phila., 1949.
3. Seifter, J., and Baeder, D. H.: *Proc. Soc. Exp. Biol. Med.* v. 156, p. 429, 1949.
4. Elster, S. K., et al: *Am. J. Physiol.*, v. 156, p. 429, 1949.
5. Schultz-Hautt, S., et al: *Science*, v. 117, p. 653, 1953.
6. Eollos, Z., et al: *Chem. Abs.*, v. 45, p. 10336-7.
7. Stepanyan, E. P., and Perchikova, O. E.: *Klin. Med.* v. 35, no. 5, p. 129, 1957.
8. McClure, C., et al: *Science* v. 19, p. 189, 1954.
9. Fabinyi, M. O., and Szebelheli, J.: *Nature*, v. 163, p. 533, 1949.
10. Schwabacker, N., et al: *Brit. J. Exp. Pathol.*, v. 26, p. 124, 1945.
11. Medinavotia, J., and Stacy, M.: *Biochem. J.*, v. 38, p. 413, 1944.
12. Watterson, R. P.: *Osteoarthritis Reversible*, *Am. Pract. & Dig. of Treatment*, 9: 1995, 1958.
13. Watterson, R. P.: *Porphyrin Metabolism*, *Am. Pract. & Dig. of Treatment*, v. 10, no. 9, (Sept.) 1959.
14. Watterson, R. P.: *Porphyrin & Magnesium Supplementation*, *Southwestern Med.*, v. XLI, no. 6, (June) 1960.
15. Watterson, R. P.: *Lead Exposure a Common Cause of Disease*, *Southwestern Med.*, v. XL, no. 12.
16. Blackburn, C. R., B.: *J. Biol. Chem.*, v. 178, p. 855, 1949.
17. Sodeman, W.: *Pathologic Physiology*, W. B. Saunders Co., 1952.
18. Duncan, G. G.: *Diseases of Metabolism*, W. B. Saunders Co., 1952.
19. J. Am. Chem. Soc., v. 76, p. 2279, 1954. *J. Biol. Chem.*, v. 216, p. 215, 1955.
20. Domonkos, J., et al: *Acta Physiol. Scand. Sci. Hungary*, v. 6, p. 11, 1954.
21. Freeman et al: *Proc. Soc. Exp. Biol. Med.*, v. 70, p. 524, 1949.
22. Griffiths, W. J.: *Am. J. Physiol.*, v. 149, p. 135-1947.
23. Selye, H.: *Am. Heart J.*, v. 55, no. 6, p. 805-9, 1958.
24. Everett's *Med. Biochem.*, p. 591-3, 1946.
25. Panel Discussion on Lipid Metabolism in Cardiovascular Disease, *J. Am. Ger. Soc.*, v. VI, no. 6, (June) 1958.
26. Israel, M.: *The Thyroid-Vitamin Approach to Cholesterol Atheromatosis and Chronic Disease*, The George Press, Inc., N. Y.
27. National Research Council: *Handbook of Respiration*, W. B. Saunders-1958.
28. Kosaki, T.: *Studies on Porphyrins and Metalloporphyrins*, *J. of Mic. Med. Col.*, v. II, no. 2, (Dec.) 1951, Japan.
29. Altschul, R.: *Influence of Cytochrome C and Hematoporphyrin on Serum Cholesterol*, *Mag. for Circulation Research*, v. 48, p. 844, 1959.
30. Burgi, E.: *Das Chlorophyll Als Pharmakon*, Geo. Thieme Co., Leipzig, 1932.
31. Gruskin, B.: *Chlorophyll, Its Therapeutic Place in Acute and Suppurative Disease*, *Am. J. Surg.*, 49:49, 1940.
32. Yarbrough, R., Maj., (USAF (MC), Portland, Ore.: *Preliminary Observations on Therapy with a Porphyrinic Compound in Arteriosclerosis and Associated Coronary Conditions*, *Med. Rec. & Annals (Houston)* v. LII, no. 4, 4.112-14 (April) 1960.
33. Glasser, Otto: *Medical Physics*, The Year Book Publishers, Inc. Chicago, Ill, 1955.

*PoChlorin, by Texophyl Corp., Boling, Texas.

**Hyalex, Miller Pharmacal, W. Chicago, Ill.

Tumors of the Renal Pelvis*

ROBERT F. THOMPSON, M.D., F.A.C.S.

El Paso

Tumors of the renal pelvis and calices are a completely different group from those having their origin in the parenchyma of the kidney. They are closely related to tumors arising in the vesical and ureteral mucosa. Their embryological background is the same and they are identical, histologically.

Renal pelvic tumors are classified by Lowsley and Kirwin as follows:

Epithelial Tumors—Papillary

- Papilloma
- Papillary epithelioma
- Papillary carcinoma (infiltration)

Epithelial Tumors—Non-Papillary

- Alveolar or scirrhous carcinoma
- Squamous—cell carcinoma

Connective Tissue and Embryonal Tumors (very rare)

- Sarcoma
- Rhabdomyoma
- Myxoma
- Angioma
- Fibroma
- Mixed types

Incidence

Primary tumors of the renal pelvis are rare in comparison with those situated in the parenchyma of the kidney. It is estimated from several comparative studies that only five to seven per cent of all renal tumors occur primarily in the pelvis. Although they are considered to be uncommon, the incidence has grown considerably in the past 25 years.

This is undoubtedly due to increased awareness of these tumors and improved diagnostic methods. They occur usually in middle-aged people, between the ages of 40 to 65, yet they are encountered in the very young and the very elderly.

Men are more often affected than women, the ratio being three to one, and the right kidney is involved slightly more often than the left.

Pathology

The majority of tumors of the renal pelvis are epithelial and arise from the mucous membrane of the pelvis and calices, most of them being of the papillary type. This variety is observed more frequently than the squamous cell type. Relatively 75 per cent of all instances of renal pelvic tumors are papillary.

Although some of the papillomas may be histologically benign it is more practical to consider all papillary tumors of the renal pelvis as malignant tumors and treat them as such because such tumors cannot be safely excised locally or treated by fulgeration. Connective tissue tumors, embryonic and mixed tumors have been reported but they are extremely rare.

Papillomatous tumors of the renal pelvis are of clinical interest because:

- (1) Their tendency to occlude the outlet of the renal pelvis with resultant hydronephrosis.
- (2) The pressure atrophy of the parenchyma.
- (3) The frequency of coincident implantation metastases in the ureter or bladder or both.

The papillary epithelioma appears as a warty or villous proliferation of the pelvic mucosa. It invades the submucosa early and produces areas of ulceration.

Non-papillary carcinomas of renal pelvis are not as common as papillary tumors, but are met with often enough to be of clinical importance. The usual tumor in the small group is squamous cell carcinoma which is highly malignant with insidious onset and rapid and fatal course. This extremely malignant growth may spread by direct extension into the vena cava and to regional lymph nodes with metastases, also, to lungs, peritoneum and vertebrae. The prognosis is extremely grave. Kutzman has emphasized the importance

*Presented at American Urological Association, South Central Section, Denver.

of leukoplakia as a precursor of squamous cell carcinoma of the renal pelvis.

Etiology

Infection and stone may possibly have some part in the causation of the non-papillary neoplasms. Calculous disease is less commonly associated with the papillary growths.

Irritation, and infection producing leukoplakial and metaplasia changes in the mucosa are thought to play a definite part in the causation of the squamous-cell type of carcinoma. The importance of chronic irritation, inflammation and metaplasia in the pathogenesis of this disease is generally recognized. The rare mixed tumors are presumably embryonic in origin.

In the 19th century it was discovered that workers in the dye industries frequently developed bladder tumors, and since that time a great deal of study has been given to this subject. Tumors have been produced experimentally, in the pelvis, ureter and bladder of animals by using various carcinogenic agents.

It is presumed that the epithelium of the pelves, ureters and bladder has undergone preinalignant changes from the effects of the carcinogens and that unrelated tumors have their origin simultaneously or successively in this altered epithelium. This presumption is adhered to by some investigators as well as the theory of implants of tumor particles transported by the urine.

Symptoms

Hematuria is the cardinal symptom of renal pelvic tumors because they are extremely vascular consisting principally of thin-walled blood vessels. The bleeding may be intermittent and painless at first, and very profuse later when the growths are more developed. Lumbar and abdominal pain may be mentioned by the patient, and also dysuria and frequency. Sometimes an abdominal mass will be noticed, usually from massive hydronephrosis which has been produced by the tumor obstructing the outlet of the pelvis.

Fever due to coexistent pyelitis and pyelonephritis may be a prominent feature. Occasionally there may be persistent digestive disturbances, presumably, from the close association of the sympathetic and parasympathetic nerve supply of the kidney and bowel.

Diagnosis

The diagnosis of renal pelvic tumors is made

chiefly of urographic study. Intravenous urography may be of assistance but the information obtained is seldom as clear cut as by retrograde pyelography.

Bloody urine may be seen escaping from the ureteral orifice. Renal function may or may not be impaired.

Hydronephrosis may be present from the tumor growth obstructing the uretero-pelvic juncture and if the obstruction is complete, an enlarged kidney mass may be palpable.

In about 20 per cent of the cases cystoscopy will disclose an extension of the lesion by the presence of a papilloma of the bladder. This is usually located near the ureteral orifice of the involved kidney, but it may be located elsewhere in the bladder. Every case of bladder papilloma warrants a complete investigation of the upper urinary tract.

And it should be borne in mind that many instances of fatalities attributed to vesical malignancy would be shown to be directly due to the obstruction produced by papillary pelvic neoplasm, rather than to the influence of vesical tumor growths.

The pyelogram will show an irregular filling defect of the pelvis or calyx and often the pelvis or calyx will be dilated with a bizarre deformity. A complete outline of the ureter should be obtained, if possible. The pelvis may be filled with blood clots producing the characteristic pyelogram of this condition.

Cells from the urine should be stained by the Papanicolaou method, if they are present. Occasionally one may be able to obtain isolated tumor cells and possibly clumps of cells in ureteral catheter drainage when papillary tumors of the renal pelvis are present.

Prognosis

The prognosis of non-papillary tumors is extremely poor. Squamous-cell tumors have a very high mortality. Those who survive surgery usually are dead in less than a year. There are no five year cures on record. Unfortunately most of these patients are not seen by their physician until the growths have extended beyond the hope of cure.

In papillary tumors the prognosis is more favorable. They are less malignant, run a slower clinical course and if not too far advanced there

is better hope for a cure if the patient is seen soon enough and prompt surgery is performed.

Treatment

The best hope for cure lies in early diagnosis and prompt radical therapy (nephro-ureterectomy) whenever such is permitted by the condition of the patient.

Case One: M. M., male, age 88

This elderly man was admitted to the hospital suffering intense pain from an acute retention. The bladder was markedly distended.

One quart of bloody urine was withdrawn upon catheterization and later a considerable amount of blood clots were evacuated transurethrally. Active bleeding was seen to be issuing from the right ureteral orifice. The prostate was playing no part in the urinary difficulty as the vesical neck was not obstructed.

A retrograde pyelogram of the right kidney revealed a bizarre and mottled filling defect of pelvis and calices indicative of blood clots.



Figure 1

Pyelogram of right kidney showing mottled filling defect of pelvis and calices indicative of blood clots.

Due to the advanced age of this patient and his rather poor general condition, surgery was deferred. But despite repeated transfusions, the active bleeding from the right kidney persisted. Consequently, surgery was advised without further delay.

Operation—September 22, 1954: Under spinal anesthesia the kidney was exposed and the pelvis and upper ureter were observed to be markedly distended with blood clots. The kidney and ureter were removed.

Pathological Report

Macroscopic Examination:

This specimen is a complete right kidney with ureter attached. The kidney measures 13 cm. in length. The renal pelvis is markedly dilated. The capsule of the kidney is stripped. The surface is smooth, pale-grey and shows a number of tiny hemorrhages. Upon incision there is marked atrophy of the renal cortex. The renal pelvis and calyces are tremendously dilated and filled with hemorrhagic material. As this hemorrhagic material is removed, one sees that the surface of the renal pelvis and of the calyces is studded with innumerable extremely tiny pale-grey papillary structures which project into the lumen and measure up to 1 cm. in greatest diameter. Many of these papillary accumulations are friable and extremely hemorrhagic.

Microscopic examination:

Multiple sections are taken from various parts of the kidney and the ureter, as well as from the necrotic material contained in the renal pelvis. They show that the entire renal pelvis as well as the ureter is lined with innumerable papillary tumors of the transitional cell type. The individual stalks vary in size and depth of tissue. Sometimes a few thin layers are present. Sometimes the layers are 20 or 30 rows of cells deep. The individual tumor cells are fairly well differentiated. A certain irregularity of pattern is noticeable and a considerable number of mitotic figures are seen. In all the sections the tumor has remained superficial and does not invade the renal parenchyma.

Pathological Diagnosis:

Papillary transitional cell carcinoma of renal pelvis.

The post-operative convalescence was very satis-

factory and he left the hospital 12 days later. He was not seen after that time but his family reported a few months later that he was getting along satisfactorily.

It was learned later that he died, about one year after the operation, from "old age."

Case Two: M. F., male, age 58

This patient complained of pain in the left kidney area associated with hematuria. The symptoms had been present for eight days. Intravenous urograms by his family physician revealed no secretion of dye by the left kidney. The right kidney appeared normal in these films. The urine was bloody, resembling port wine.

Upon cystoscopy the drippings from the right kidney were clear whereas blood clots were observed to be exuding from the left orifice.

Retrograde pyelograms revealed the left pelvis to be filled with blood clots. The right kidney was normal in appearance. Operation was advised.



Figure 2

Pyelogram of left kidney showing pelvis filled with blood clots.

Operation—September 27, 1956: Under spinal anesthesia, the kidney was exposed and the pelvis was seen to contain a tumor-like mass with blood clots. The kidney and ureter were removed.

Pathological Report

Macroscopic Examination:

The specimen consists of a left kidney and ureter. The kidney measures 12 cm. from pole to pole and weighs 168.8 grams. The capsule of the kidney strips with ease. The renal surface is pale gray and dotted with numerous hemorrhagic spots. The cut surface of the kidney shows a usual renal pattern. Within the renal pelvis there is a coin-like plaque which measures 3 cm. in diameter. Numerous sections are taken through the plaque. On sectioning, this plaque is composed of firm grayish-white tissue with areas of necrosis in the center.

Microscopic Examination:

Multiple sections are taken from the plaque in the renal pelvis. The plaque shows large sheets of tumor cells which are epithelial in origin.

The individual tumor cells have elongated nuclei, which are hyperchromatic and show frequent pathologic mitotic figures. The tumor cells are arranged in a transitional cell pattern. They are forming solid sheets with areas of necrosis in the center. The tumor shows diffused and wide spread infiltrative invasion. The remainder of the kidney is not remarkable.

Pathological diagnosis:

Transitional cell carcinoma of renal pelvis (infiltrative).

The post-operative course for six months was very satisfactory, during which time he returned to work and had no complaint. The urine was clear. At this time, however, he began to have backache and general malaise. His condition became progressively worse and he died from generalized metastases nine months after the operation.

Case Three: W. H. S., male, age 74

In 1945, when he was 61 years of age, this patient first presented himself. He complained of dysuria, frequency and slight hematuria.

Cystoscopy revealed the presence of a small papilloma on the right trigone. Operation was refused and he was not seen again until 1948, three years later, when the hematuria had increased in severity and was giving him increased concern. By now the trigonal tumor had grown and was approximately the size of a pecan. This

tumor was resected and desiccated through a cystostomy incision, under spinal anesthesia.

In 1956, eight years later, hematuria returned and four small papillomas were seen on the bladder floor. These were resected and fulgerated, transurethrally.

In 1957 another episode of hematuria was experienced and upon cystoscopy recurrent trigonal papillary tumors were observed. One of them was located just within the right ureteral orifice. All of these small tumors were fulgerated, cystoscopically.

Six months later when bloody urine returned once more the bleeding was observed to be issuing from the right ureteral orifice. Retrograde pyelography now revealed blood clots in the pelvis of the right kidney. Intravenous urograms on several previous occasions had failed to give significant findings. Nephrectomy was advised.



Figure 3

Pyelo-ureterogram showing mottled appearance of pelvis and ureter from presence of tumor and blood clots.

Operation—June 12, 1957: Under spinal anesthesia, the right kidney was exposed and the pelvis

and upper ureter were observed to be filled with clots. Complete nephro-ureterectomy was performed.

Pathological Report

Macroscopic Examination:

The specimen consists of the right kidney and the attached entire ureter, weighing together 107 grams. The kidney measures 10 x 6 x 3 cm. The ureter measures 29 cm. in length and ranges in diameter from 0.5 to 2 cm. The capsule of the kidney strips with marked resistance from a pinkish-gray surface showing large flattened scars.

The largest scar measures 5 cm. in diameter and is about 3 mm. deep. On cut surface the cortico-medullary markings are obscure. The cortex is thin measuring in places only 2 mm. in thickness. There is an increased amount of fat in the hilus of the kidney. The renal pelvis is dilated and bulges from the hilus.

When the ureter and renal pelvis are opened, a polypoid tumor mass is found in the pelvis. It measures 2.5 x 2 x 2 cm. Nearby are multiple smaller polypoid tumor masses ranging in size from 2 to 7 mm. in diameter. Similar tumor masses are present in the ureter all along its length. There is no invasion of the external surface of the ureter or renal pelvis. No tumor masses are found in the renal parenchyma, grossly. The renal vein and artery are not invaded by tumor tissue.

Microscopic Examination:

Sections of the tumor of the renal pelvis show thin papilliferous stalks covered by masses of atypical epithelial cells in several layers. These cells are small in size and resemble the transitional cell variety. They have a moderate amount of eosinophilic cytoplasm and relatively large hyperchromatic nuclei. Among the cells are some in mitosis. There is no invasion of the fibrous tissue of the renal pelvis and the tumor grows on the surface. Sections taken from the tumor nodules described grossly in the ureter show essentially similar tumor tissue to that described above. In places there is invasion of the submucosal connective tissue but no carcinoma cells are present in the muscularis. Sections of the kidney show severe chronic pyelonephritis but no invasion by tumor tissue.

Pathological diagnosis:

Papillary transitional cell carcinoma of renal pelvis with extension into the ureter and producing hydronephrosis.

The convalescence following this operation was very satisfactory and he remained well and returned to work for one year, when he experienced bloody urine once more. A small recurrent papilloma at the vesical neck was the source of the bleeding and this was thoroughly fulgerated, cystoscopically.

He has remained completely well since that time and the urine has remained clear. Two years have now elapsed since the nephro-ureterectomy.

Case Four: R. O., male, age 55

This patient complained of pain in the right loin associated with hematuria. The voided urine was very bloody. He was extremely tender over the right kidney.

Upon cystoscopy the urine from the right kidney was bloody. Bilateral pyelograms revealed a normal left kidney, whereas the right kidney was

a huge hydronephrotic sac. 50 c.c. of opaque media were employed in making the pyelogram. The left kidney had good function, but there was none in the right kidney. Operation was advised.

Operation—August 29, 1956: Under spinal anesthesia, the kidney was exposed and it was found to be a huge hydronephrotic mass. The pelvis appeared to be obstructed by a soft tumor mass at the uretero-pelvic juncture. The kidney and upper ureter were removed. It had been planned to free the lower ureter through a midline incision and perform a complete nephro-ureterectomy. However, due to the condition of the patient and advice of the anesthetist this latter procedure was postponed, and the nephrectomy wound was closed as quickly as possible. Later, he refused to have the lower ureter removed, and left the hospital.

Pathological Report

Macroscopic Examination:

The specimen consists of the right kidney and ureter. The kidney weighs 368 grams and measures 16 cm. in greatest diameter. The capsule of the kidney is dull and hyperemic. The kidney is of cystic consistency. On sectioning, the kidney is filled with purulent material. The renal pelvis is dilated and the renal cortex is nearly atrophic. Some of the calices are covered with a rough partially necrotic membrane.

The renal pelvis is occluded by a large soft papillary tumor which is oval in shape and measures 4 cm. in greatest diameter. The tumor blocks the ureter completely. Sections are taken from the tip and from the base of the tumor. Several smaller tumors are present somewhat distal to the large tumor. In addition, the perirenal fat tissue is received. It is indurated and hyperemic.

Microscopic Examination:

The section from the renal cortex shows considerable atrophy and an acute inflammatory process. The interstitial tissue is heavily infiltrated with lymphocytes and plasma cells and in many areas, there is formation of young granulation tissue. The section from the renal pelvis shows a papillary tumor composed of sheets of moderately



Figure 4

Pyelogram showing huge, hydronephrotic, functionless right kidney produced by complete obstruction by U.P.J. by renal pelvis tumor.

anaplastic transitional cells. There is some invasion of the underlying stalk.

Pathological Diagnosis:

Papillary transitional cell carcinoma of renal pelvis with complete obstruction and massive hydronephrosis.

For one year he enjoyed good health and then after two episodes of hematuria from papillary tumor recurrence on the right trigonal area, he consented to the ureterectomy, which had been urgently advised.

Operation—January 17, 1959: Under spinal anesthesia the remaining portion of the right ureter was removed with a cuff of bladder. It was enlarged and distended with tumor growth.

Pathological Report

Macroscopic Examination:

The specimen is a long cylindric object 16 cm. from end to end, and 32 mm. in circumference in the opened condition. Externally this is grossly certainly compatible with being a greatly dilated ureter, having a membranous exterior to which some bits of fat are adherent, but the opened surface is completely filled from end to end, (with a tiny length of about 9 mm. of smooth tissue at one end, but no similar tumor free zone at the other) by a remarkable amount of papillary grey-pink tissue thrown up into numerous irregular little excrescencies. No zone of completely normal ureteral lining is visible. The tumor, even as opened and laid out, still attains a maximum thickness of 9 mm.

Microscopic Examination:

The tissue from the ureter shows an exophytic papillary transitional cell tumor, not noteworthy invading the substance of the ureteral wall itself anywhere. Although the cell sheets are becoming quite thick in places, and in these places sometimes an almost squamous form of the cell is seen, for the most part they retain a distinct long axis and reasonably good polarity, and form heavy caps on the extremely delicate stromal ramifications.

The nuclei, for urinary tract epithelium, show moderate intra-series variation, and many of them are enlarged, more rounded than they should be, and show a visible but not prominent pink nucleolus. The mitotic rate is not high. The section cut

from the one ureter shows superficial necrosis, with hemorrhage in the wall, but no tumor in the wall at either end (or for that matter in the middle) of the specimen. There is also a reactive sub-acute inflammation near the necrotic tissue.

Diagnosis:

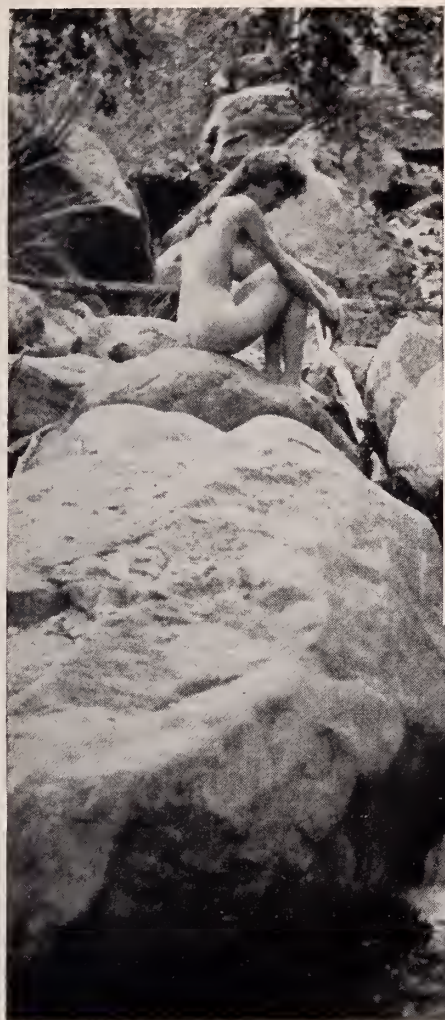
Papillary transitional cell carcinoma, in right ureter.

A year has elapsed since the last operation and at the present time he is working regularly, with clear urine and no complaint.

301 University Towers

Bibliography

1. Greene, Lloyd B.: Hayllar, Benjamin L.: and Bogash, Morton: Epithelial Tumors of the Renal Pelvis and Ureter. *The Journal of Urology* 79:697-700 (April 1958).
2. Fetter, Theodore R., and Wilkerson, J. Louis: Tumors of the Renal Pelvis and Ureter. *Journal of the International College of Surgeons*, 29:22-40 (January 1958).
3. Utz, David C., and McDonald, John R.: Squamous Cell Carcinoma of the Kidney. *The Journal of Urology*, 78:540-552 (November 1957).
4. Cook, E. N.: Culp, O. S.: McDonald, J. R.: and Utz, D. C. Carcinoma of the Renal Pelvis and Ureter. Paper presented June 5, 1957 at Meeting of the A.M.A. Section on Urology, New York, New York.
5. Arcadi, J.A.: Mucus-Producing Cystadenocarcinoma of the Renal Pelvis and Ureter. *Arch. Path.* 61:264-268 1956.
6. O'Connor, V. J.: The Diagnosis of Tumors of the Renal Pelvis and Ureter. *The Journal of Urology* 75:416-418, 1956.
7. MacLean, J. T., and Fowler, V. B.: Pathology of Tumors of the Renal Pelvis and Ureter. *The Journal of Urology* 75:384-415, 1956.
8. MacLean, J. T., and Fowler, V. B.: Pathology of Tumors of the Renal Pelvis and Ureter. *Tr. Am. A. Genito-Urin. Surg.* 47:69-100, 1955.
9. Dees, J. E.: Prognosis of Primary Tumors of Renal Pelvis and Ureter. *Tr. Am. A. Genito-Urin. Surg.* 47:113-117 1955.
10. Culp, O.S.: Treatment of Tumors of the Renal Pelvis and Ureter. *Tr. Am. A. Genito-Urin. Surg.* 47:101-112, 1955.
11. Roth, R. B., and Kaminsky, A.F., and Hess, Elmer, Surgical Management of Renal Tumors, Geriatrics, November 1954.
12. McDonald, D. F., and Lund, R. R. The role of the urine in vesical neoplasms. *Jour. Urol.* 71:560-570, 1954.
13. Higgins, Chas. H. Tumors of Renal Pelvis, *Annals of Surg.* February 1953.
14. Fitzgerald, J. S., and Mullins, P. S. Clinical and statistical survey of Renal Tumors, *Jour. Urol.* May 1953.
15. *Clinical Urology*—Lowsley and Kirwin, Williams and Wilkins, 1940.
16. Scott, W. W., and Boyd, H. L. A study of the carcinogenic effect of betanaphthylamine on the normal and substitute isolated sigmoid loop bladder of dogs. *Jour. Urol.* 70:914-925, 1953.
17. Lucke, B., and Schlumberger, H. G., Tumors of kidney, Renal Pelvis and Ureter. *Armed Forces Inst. Pathology*.
18. Thompson, R. F. Leukoplakia of Renal Pelvis, *Southwestern Medicine* 414-417, September, 1955.
19. Macalpine, J. B. Papilloma of Renal Pelvis in dye workers—*British Jour. Surg.* 35:137-140, 1947.
20. Kutzmann, A. A. *Arch. Surg.* 10-871, 1929.
21. Kennedy, J. S., and Fidler, H. K., Primary Adenocarcinoma of the Renal Pelvis, *Jour. Urol.* 80: 208-213, October 1958.
22. Allen, Arthur C., *The Kidney Medical and Surgical Diseases*, Green and Stratton 1951.



a more effective,
more pleasant
way to treat
dry...itchy skin

Alpha-Keri®

*water dispersible, antipruritic oil
for the bath or shower*

Alpha-Keri makes dry skin feel soft and smooth immediately . . . soothes the skin and stops itching. Alpha-Keri deposits a microfine, lubricant-moisturizing oil film over the entire skin area . . . hydrating the keratin and preventing it from drying out. It is particularly effective in replacing the action of skin lipids lost by the dehydrating effects of soap, water and weather. Alpha-Keri may be added to the bath or sponged on the wet skin while showering.

Alpha-Keri is the first and only completely water-dispersible, antipruritic oil combining mineral oil and a keratin moisturizer. Contains Kerohydric® (brand of dewaxed, oil-soluble, keratin-moisturizing fraction of lanolin), mineral oil and a special nonionic emulsifier. Alpha-Keri disperses immediately and completely in water. Available in bottles of 8 fl. oz.

Write for samples and literature.

WESTWOOD PHARMACEUTICALS, BUFFALO 13, NEW YORK



Southwestern Physicians' Directory



SAUL B. APPEL, M.D.

Certified by the American Board of Internal Medicine

CARDIOVASCULAR DISEASES

Suite 10E KE 3-5201 EL PASO MEDICAL CENTER 1501 Arizona Ave. El Paso, Texas

ARTESIA MEDICAL CENTER

Phone:

Henry L. Wall, M.D., Suite A SH 6-2311
General Practice
Robert W. Harper, M.D., Suite B SH 6-2531
Surgery and Gynecology
Owen C. Taylor, Jr., M.D., Suite C SH 6-2521
General Practice
C. Pardue Bunch, M.D., Suite D SH 6-3321
General Practice
Gerald A. Slusser, M.D., Suite E SH 6-2441
Surgery
X-ray and Medical Laboratory SH 6-4200
Fourth and Washington Artesia, New Mexico

ANDREW M. BABEY, M. D.

Certified by the American Board of Internal Medicine

CARDIOVASCULAR DISEASES

250 West Court Avenue Jackson 4-4481 Las Cruces, N. M.

**FRANK O. BARRETT
ANESTHESIOLOGY ASSOCIATES**

J. A. Shugart, M.D.

(Diplomate American Board of Anesthesiology)

Jack Walker, M.D., J. W. Redelfs, M.D., Jack Ellis, M.D.

B. F. Fehlman, M.D., C. G. Race, M.D.

— ANESTHESIOLOGY —

El Paso Medical Center KE 3-8431 1501 Arizona Ave. El Paso, Texas

OTTO L. BENDHEIM, M. D.

DIPLOMATE AMERICAN BOARD OF PSYCHIATRY & NEUROLOGY

5051 N. 34th Street CRestwood 7-7431 Phoenix, Arizona

RAYMOND J. BENNETT, M. D.

Diplomate of the American Board of Neurology and Psychiatry

PRACTICE LIMITED TO NEUROPSYCHIATRY

Suite 7A El Paso Medical Center 1501 Arizona Avenue
Phone KE 2-1177 El Paso, Texas

JACK A. BERNARD, M.D., F.A.C.P.

Diplomate American Board Internal Medicine

INTERNAL MEDICINE
CARDIOVASCULAR DISEASES

Suite 3C El Paso Medical Center 1501 Arizona Avenue
Phone KE 3-8151 El Paso, Texas

VICTOR M. BLANCO, M.D.

Diplomate of the American Board of Surgery

GENERAL AND CANCER SURGERY

205 University Towers Building

1900 N. Oregon St. KE 3-5519 El Paso, Texas

CLEMENT C. BOEHLER, M. D., F.A.C.S.

H. W. DEMAREST, M.D., F.A.C.S.

Diplomates American Board Obstetrics and Gynecology

Suite 8-A Medical Center 1501 Arizona Avenue
Phone KE 2-6591 El Paso, Texas

FREDERICK P. BORNSTEIN, M.D.

Certified by the American Board of Pathology
in Pathologic Anatomy and Forensic Pathology

102 University Towers Bldg.

1900 N. Oregon St. KE 2-3901 El Paso, Texas

LOUIS W. BRECK, M.D.

W. COMPERE BASOM, M.D.

MORTON H. LEONARD, M.D.

MARIO PALAFOX, M.D.

ZIGMUND, W. KOSICKI, M.D.

ADRIAN L. GRASS, M.D.

The El Paso Orthopaedic Surgery Group

1220 N. Stanton St. Telephone KE 3-7465 El Paso, Texas

3500 Physicians Road

Southwestern Medicine

BASIL K. BYRNE, M.D., F.A.A.P.

IRVIN J. GOLDFARB, M.D., F.A.A.P.

Diplomates American Board of Pediatrics
PEDIATRICS

Suite 4A El Paso Medical Center 1501 Arizona Avenue
KE 3-8487 El Paso, Texas

ROBERT J. CARDWELL, M.D.

(Diplomate American Board of Obstetrics and Gynecology)

608 University Towers Building

1900 N. Oregon St. KE 3-7587 El Paso, Texas

Urised combats bacteria while providing soothing relief in cystitis, urethritis, pyelitis, pyelonephritis, and prostatitis. Urised avoids toxic reactions or drug resistance.

as a first choice **URISED[®]**
is effective in 80 to 90%
of urinary infections^{1,2,3,4} (no side effects reported)

Each Urised tablet contains: Atropine Sulfate 1/2000 gr., Hyoscyamine 1/2000 gr., Methenamine, Methylene Blue, Benzoic Acid, Salol and Gelsemium. *Supplied:* Bottles of 100.

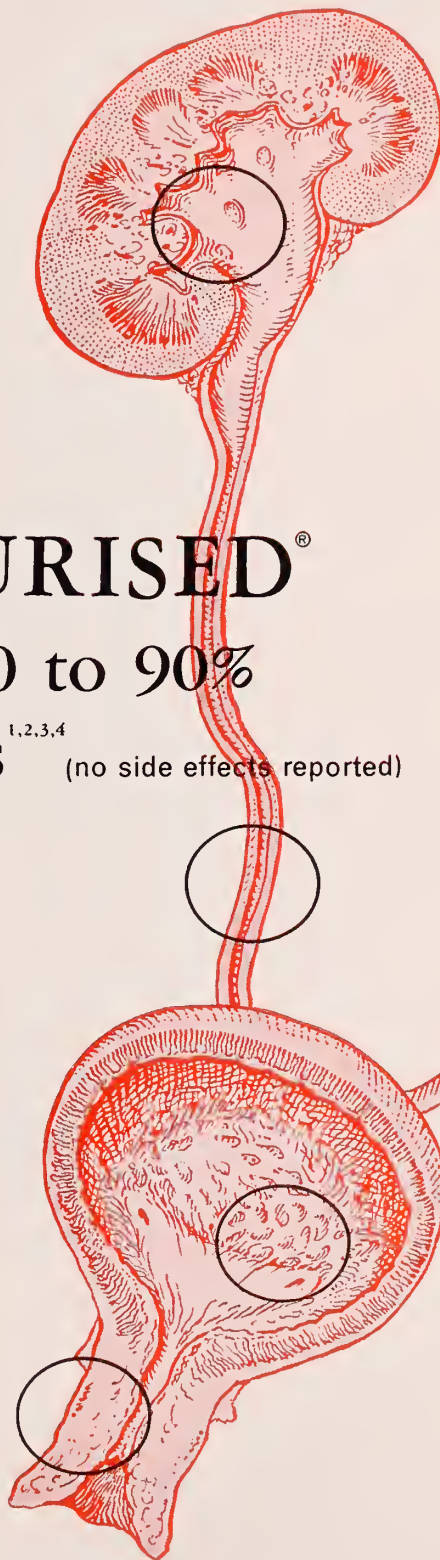
(1) Marshall, W.: Clin. Med. 7:499-502, 1960; (2) Haas, J., and Kay, L. L.: Management of Urinary Tract Infections (to be published); (3) Renner, J., et al.: Urinary Tract Infections: Treatment with Antiseptic-Antispasmodic Agent (to be published). (4) Strauss, B.: Clin. Med. 4: 309-310, 1957



Rx URISED[®]

CHICAGO PHARMACAL COMPANY

5547 N. Ravenswood Ave., Chicago 40, Ill.





Southwestern Physicians' Directory



ROBERT N. CAYLOR, M.D.

Practice Limited to Ophthalmology

508 University Towers Building

1900 N. Oregon St. KE 3-4909 El Paso, Texas

WILLIAM I. COLDWELL, M.D.

Certified by the American Board of Internal Medicine

INTERNAL MEDICINE

501 University Towers Building

1900 N. Oregon St. KE 2-2661 El Paso, Texas

BRANCH CRAIGE, M.D., F.A.C.P.

(Certified by American Board of Internal Medicine)

INTERNAL MEDICINE

Suite SB El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-7121 El Paso, Texas

E. S. CROSSETT, M.D.

Diplomate American Board of Thoracic Surgery

GEORGE W. IWEN, M.D.

THORACIC SURGERY

Cardiovascular Surgery Broncho-Esophagology
Suite 11-D KE 3-8511 or KE 2-2474 1501 Arizona Ave.
El Paso Medical Center El Paso, Texas

WICKLIFFE R. CURTIS, M. D., F.A.C.S.

JAMES D. BOZZELL, M.D., F.A.C.S.

Diplomates American Board of Urology

PRACTICE LIMITED TO UROLOGY

Suite 3B El Paso Medical Center 1501 Arizona Avenue
Phone KE 3-1426 El Paso, Texas

RITA L. DON, M.D.

Allergy

102 University Towers Building

1900 N. Oregon St. KE 2-3901 El Paso, Texas

ANTONIO DOW, M.D., F.A.C.S.

(Diplomate of American Board of Surgery)

GENERAL SURGERY

205 University Towers Building

1900 N. Oregon St. KE 2-7305 El Paso, Texas

HAROLD D. DOW, M.D.

FREDERICK J. KOBERG, M.D.

General Practice — Surgery

Box 456
702 Hobbs Road Phone 3641 Seminole, Texas

3500 Physicians Read

Southwestern Medicine

JOHN A. EISENBEISS, M.D., F.A.C.S.

WILLIAM B. HELME, M.D.

Diplomates of the American Board of Neurological Surgery

NEUROSURGERY

926 E. McDowell Road AL 4-3151 Phoenix, Arizona

WARD EVANS, M.D., F.A.C.S.

(Diplomate American Board of Surgery)

SURGERY

608 University Towers Building

1900 N. Oregon St. KE 3-7587 El Paso, Texas

LESTER C. FEENER, M.D., F.A.C.P.

Diplomate American Board of Internal Medicine

INTERNAL MEDICINE

CARDIOVASCULAR DISEASES

404 Banner Bldg. KE 2-5771 El Paso, Texas

2021 N. Central Ave. AL 3-4131

DOUGLAS D. GAIN, M.D.

JOHN W. KENNEDY, M.D.

JAMES R. MATHESON, M.D.

FRANK TOLONE, M.D.

Diplomates of American Board of Radiology
X-RAY THERAPY and DIAGNOSIS
RADIUM THERAPY

Phoenix Arizona

ALBERT A. GEMOETS, M.D.

Member American Academy of General Practice

GENERAL PRACTICE

3726 1/2 Alameda Ave. KE 3-7689 El Paso, Texas

H. M. GIBSON, M.D., F.A.C.S.

Certified by American Board of Urology

PRACTICE LIMITED TO UROLOGY

512 University Towers Building

1900 N. Oregon St. KE 2-8130 El Paso, Texas

L. A. GLADSTONE, M.D.

W. D. FEINBERG, M.D.

INTERNAL MEDICINE

Bldg. 14, Suite D 1501 Arizona Ave.
El Paso Medical Center KE 3-2508 El Paso, Texas



*once again,
an active
hand in
"doing"—*

PABALATE®



mutually potentiating nonsteroid antirheumatics

"superior to aspirin"² and with a "higher 'therapeutic index'"¹

When sodium should be avoided—

PABALATE®-SODIUM FREE

When conservative steroid therapy is indicated—

PABALATE®-HC

Pabalate with Hydrocortisone

*In each yellow enteric-coated
PABALATE tablet:*

Sodium salicylate (5 gr.)
0.3 Gm.
Sodium para-aminobenzoate
(5 gr.) 0.3 Gm.
Ascorbic acid 50.0 mg.

*In each pink enteric-coated
PABALATE-SODIUM FREE
tablet:*

Same formula as PABALATE,
with sodium salts replaced by
potassium salts.

*In each light blue enteric-coated
PABALATE-HC tablet:*

Same formula as PABALATE-
SODIUM FREE, plus hydrocorti-
sone (alcohol) . . . 2.5 mg.

1. Barden, F. W., et al.: J. Maine M. A. 46:99, 1955.

2. Ford, R. A., and Blanchard, K.: Journal-Lancet 78:185, 1958.



Southwestern Physicians' Directory



JAMES J. GORMAN, M.D., F.A.C.P.

Diplomate American Board of Internal Medicine

DIAGNOSIS — GASTROENTEROLOGY

701 First National Building KE 2-6221 El Paso, Texas

J. LEIGHTON GREEN, M.D., F.A.C.S.

GENERAL and GYNECOLOGICAL SURGERY

Suite 3A El Paso Medical Center 1501 Arizona Avenue
Phone KE 2-9790 El Paso, Texas

*3500 Physicians Road
Southwestern Medicine*

DRS. HART, BOVERIE, BLACK,
CLAYTON, GREEN & WHITE

PATHOLOGICAL AND CLINICAL LABORATORIES
X-RAY DIAGNOSIS AND THERAPY

Radioactive Cobalt
Isotopes Beam Therapy

Pathology

M. S. HART, M.D.

C. L. GREEN, M.D.

Diplomates American Board of Pathology

R. F. BOVERIE, M.D.

G. L. BLACK, M.D.

R. S. CLAYTON, M.D.

J. E. WHITE, M.D.

Diplomates American Board of Radiology

MELVIN A. LYONS, M.S.H.A.

Business Manager

El Paso Medical Center Medical Arts Building
1501 Arizona Ave., Suite 2A 415 E. Yandell Drive, Suite 105
KE 3-4478 KE 3-6926

EL PASO, TEXAS

SOL HEINEMANN, M.D., F.A.C.S.

Diplomate, American Board of Urology

UROLOGY

212 University Towers Bldg.
1900 N. Oregon St. LI 2-1539 El Paso, Texas

SOLOMON HELLER, M.D.

INTERNAL MEDICINE

Hematology—Endocrinology

505 University Towers Building
1900 N. Oregon St. KE 3-0406 El Paso, Texas

HERBERT E. HIPPS, M.D.

ORTHOPEDIC SURGERY

1612 Columbus Ave. 4-4701 Waco, Texas

RUSSELL HOLT, M.D.

B. LYNN GOODLOE, M.D.

GENERAL and GYNECOLOGICAL SURGERY

MEDICAL ARTS BUILDING

415 East Yandell Blvd. KE 3-3443 El Paso, Texas

RALPH H. HOMAN, M.D., F.A.C.P.

CARDIOLOGY

ROBERT B. HOMAN, JR., M.D., F.A.C.S.

DISEASES OF THE CHEST — THORACIC SURGERY

Suite 7D El Paso Medical Center 1501 Arizona Avenue
Phone KE 3-1409 El Paso, Texas

GEORGE W. HORTON, M.D.

PRACTICE LIMITED TO ORTHOPEDICS

513 West 4th Street FEderal 2-1271 Odessa, Texas

LOUIS G. JEKEL, M.D.

ROBERT H. SNAPP, M.D.

Diplomates American Board of Dermatology

DERMATOLOGY

550 W. Thomas Rd. CR 4-4901 Phoenix, Ariz

3500 Physicians Road

Southwestern Medicine

W. A. JONES, M.D.

Diplomate American Board of Neurological Surgery

K. ZOLFOGHARY, M.D.,

NEUROLOGICAL SURGERY

Suite 1C El Paso Medical Center 1501 Arizona Avenue
KE 2-7579, KE 3-9076 El Paso, Texas

G. H. Jordan, M.D., F.A.C.S. C. E. Webb, M.D., F.A.C.S.

DRS. JORDAN AND WEBB

Diplomates American Board of Surgery

GENERAL and GYNECOLOGICAL SURGERY

Suite 7B El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-1693 El Paso, Texas



Southwestern Physicians' Directory



LINDELL M. KINMAN, M.D.

Diplomate American Board of Urology

UROLOGY

300 West Alameda Phone MA 2-4111 Roswell, N. Mex.

M. NATHAN KLEBAN, M.D.

Certified by American Board of Internal Medicine

Internal Medicine

610 University Towers Building

1900 N. Oregon St. KE 2-7079 El Paso, Texas

J. T. KRUEGER, JR., M.D.

THORACIC and CARDIOVASCULAR SURGERY

PO 3-8281

1910 Knoxville Ext 250 Lubbock, Texas

GILBERT LANDIS, M.D., F.A.C.S.

Diplomate American Board of Obstetrics & Gynecology

OBSTETRICS, GYNECOLOGY
and GYNECOLOGICAL SURGERY

Suite 15-D KE 3-5023 1501 Arizona Ave.
El Paso Medical Center El Paso, Texas

ROYCE C. LEWIS, JR., M.D.

Diplomate American Board of Orthopedic Surgery

ORTHOPEDIC SURGERY and SURGERY OF THE HAND

1910 Knoxville St. PO 3-8281 Lubbock, Texas

A. L. LINDBERG, M.D.

JOHN W. VOSSKUHLER, M.D.

Neoplastic Diseases

TUCSON TUMOR CLINIC

721 N. 4th Ave. MA 3-2531 Tucson, Arizona

CHARLES P. C. LOGSDON, M.D.

CARDIOLOGY

415 E. Yandell Blvd. KE 3-7916 El Paso, Texas

TRUETT L. MADDOX, D.D.S.

ORAL SURGERY

Suite 9A El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-3659 El Paso, Texas

WALTER B. MANTOOTH, JR., M. D.

Dermatology and Cancer of the Skin

Suite 101

3801 19th Street

SWift 9-4359

Lubbock

Texas

GEORGE B. MARKLE, IV, M.D.

Diplomate of the American Board of Surgery

GENERAL and GYNECOLOGICAL SURGERY

911 North Canal

TU 5-5240

Carlsbad, New Mexico

HOWARD J. H. MARSHALL, M.D.

Member American Academy of General Practice

GENERAL PRACTICE

Suite 8E

El Paso Medical Center

1501 Arizona Avenue

KE 2-2431

El Paso, Texas

MARSHALL CLINIC

I. J. Marshall, M.D.

General Surgery and Diagnosis

U. S. Marshall, M.D.

General Surgery and General Practice

E. A. Latimer, M.D.

General Practice

C. H. Fowler, M.D.

Internal Medicine and Cardiology

Thomas J. Jones, M.D.

Diseases of the Skin and Allergies

H. D. Johnson, Jr., D.D.S.

ROS WELL

NEW MEXICO

MEDICAL CENTER HOSPITAL AND CLINIC

Eugene McCarthy, M.D., FACS, FICS

Diplomate American Board of Obstetrics & Gynecology

Jeff H. Davis, M.D., AAGP; Joe J. Horn, M.D., AAGP

Howard Hancock, M.D., DABR

A. B. Cairns, M.D., FACCP; W. Ralph Thomas, M.D.

220 St. Louis St.

CA 4-7426

Plainview, Texas

3500 Physicians Road

Southwestern Medicine

A. WILLIAM MULTHAUF, M.D., F.A.C.S.

UROLOGICAL DIAGNOSIS AND SURGERY

1315 First National Bldg.

KE 3-8986

El Paso, Texas



Southwestern Physicians' Directory



E. K. NEIDICH, M.D., D.A.B.R.

RADIOLOGY

Memorial General Hospital Jackson 6-2411 Las Cruces, N. M.

*3500 Physicians Road
Southwestern Medicine*

WALLACE E. NISSEN, M.D., F.A.C.S.
W. W. KRIDELBAUGH, M.D., F.A.C.S.

GENERAL SURGERY

Medical Arts Square
801 Encino Place, Suite 35 3-2251 Albuquerque, N. M.

F. KEITH OEHLISCHLAGER, M.D.
WILLIAM M. BRANTLEY, M.D.

OBSTETRICS & GYNECOLOGY

1167 E. 42nd St. Sherwood Medical Center Phone
Suites 5 & 6 Odessa, Texas EM 6-4447

THE ORTHOPEDIC CLINIC

Orthopedic Surgery

W. A. BISHOP, JR., M.D., F.A.C.S.
ALVIN L. SWENSON, M.D., F.A.C.S.
RAY FIFE, M.D.
SIDNEY L. STOVALL, M.D., F.A.C.S.
THOMAS H. TABER, JR., M.D., F.A.C.S.

Diplomates of the American Board of Orthopedic Surgery
2620 North Third Street—Phone CRestwood 7-6211—Phoenix, Ariz.

JAMES M. OVENS, M.D.
F.A.C.S., F.I.C.S.

Diplomate American Board of Surgery

CANCER AND TUMOR SURGERY
X-RAY AND RADIUM THERAPY

608 Professional Building AL 8-8074 Phoenix, Ariz.

ROBERT E. PARKINS, D.D.S.

GENERAL DENTISTRY

Bldg. I, Suite E 1501 Arizona Ave.
Phone KE 3-1245 El Paso Medical Center El Paso, Texas

MURRAY PERSKY, M.D.

PSYCHIATRY

Suite 15-B 1501 Arizona Ave.
El Paso Medical Center KE 2-7952 El Paso, Texas

JACK C. POSTLEWAITE, M.D.

Diplomate American Board of Internal Medicine

INTERNAL MEDICINE

Suite 5D 1501 Arizona Ave.
El Paso Medical Center KE 2-1385 El Paso, Texas

DONALD RATHBUN, M.D.

NEUROLOGY

and

Internal Medicine

Suite 4B KE 2-8778 1501 Arizona Ave.
El Paso Medical Center El Paso, Texas

VINCENT M. RAVEL, M.D.

Diplomate American Board of Radiology

Radiology — Radio-Isotopes

Cobalt⁶⁰ — Teletherapy

101 University Towers Bldg.
El Paso KE 2-3459 Texas

HERMAN RICE, M.D.

Practice Limited to General Surgery

El Paso Medical Center

Bldg. 4-B 1501 Arizona Ave.
Phone KE 3-8051 El Paso, Texas

RISSLER-WOLLMANN CLINIC

ROSS W. RISSLER, M.D., F.A.C.C.

(Certified by the American Board of Internal Medicine)

INTERNAL MEDICINE — CARDIOLOGY

WALTER W. WOLLMANN, M.D., F.A.C.S.

(Certified by the American Board of Surgery)

GENERAL SURGERY

2001 Grant Ave. KE 3-1601 El Paso, Texas

3500 Physicians Road

Southwestern Medicine

CECIL A. ROBINSON, M.D., F.A.C.S.

Diplomate American Board of Orthopaedic Surgery

Orthopaedic Surgery

111 No. Pine Street JU 6-2541 Kermit, Texas



Southwestern Physicians' Directory



S. PERRY ROGERS, M.D.
W. HUNTER VAUGHAN, M.D.
(Diplomates American Board of Orthopedic Surgery)
ORTHOPEDIC SURGERY

Suite 28 El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-4433 El Paso, Texas

WILLARD W. SCHUESSLER, M.D.
DONALD H. EWALT, M.D.
Diplomates of the American Board of Plastic Surgery
Plastic, Reconstructive Surgery and
Maxillo-facial Surgery

1501 Arizona Ave. Medical Center, Suite 4-C
El Paso, Texas

F. P. SCHUSTER, M.D.
S. A. SCHUSTER, M.D.
NEWTON F. WALKER, M.D.
BRADFORD HARDIE, M.D.

EYE, EAR, NOSE AND THROAT-BRONCHOSCOPY
First National Bldg. KE 2-1495 El Paso, Texas

O. J. SHAFFER, D.D.S., F.A.C.D.
(Diplomate American Board of Oral Surgery)

ORAL SURGERY

Suite 1D El Paso Medical Center 1501 Arizona Ave.
Phone KE 3-6742 El Paso, Texas

D. J. SIBLEY, JR., M.D.

GENERAL PRACTICE

Box 367 Phone 584 Ft. Stockton, Texas

*3500 Physicians Road
Southwestern Medicine*

EUGENE P. SIMMS, M.D.

— GENERAL PRACTICE —

Medical Arts Center

1213 Tenth Street HEmlock 7-1720 Alamogordo, N. M.

Leslie M. Smith, M.D. John C. Wilkinson, M.D.
H. D. Garrett, M.D.

DRS. SMITH, GARRETT & WILKINSON

Diplomates American Board of Dermatology
DISEASES OF THE SKIN

Suite 3D El Paso Medical Center 1501 Arizona Ave.
Phone KE 3-6172 El Paso, Texas

C. M. STANFILL, M.D.

Diplomate American Board of Otolaryngology

EAR, NOSE AND THROAT

Stapes Mobilization

507 University Towers Building
1900 N. Oregon St. KE 2-9449 El Paso, Texas

ROBERT HEALY STEVENS, B.S., M.D.
F.C.C.P.

ALLERGY — INTERNAL MEDICINE

1313 N. Second St. AL 4-8841 Phoenix, Arizona

C. S. STONE, M.D., F.A.C.S.
A. J. JENSON, B.A., M.D.

Phones: 3-5323 — 3-3033 — 3-4427
301 East Cain Street Hobbs, N.M.

JESSON L. STOWE, M.D.
GRAY E. CARPENTER, M.D.
GYNECOLOGY AND OBSTETRICS

2323 Montana Avenue KE 2-4631 El Paso, Texas

WINSLOW P. STRATEMEYER, M.D.

Diplomate American Board of Neurological Surgery

NEUROLOGICAL SURGERY

Suite 11A Office KE 2-9167 1501 Arizona Ave.
El Paso Medical Center Home JU 4-0553 El Paso, Texas

M. D. THOMAS, M.D.

Diplomate American Board of Anesthesiology

Suite 12-D KE 3-3745
1501 Arizona Ave. El Paso, Texas
El Paso Medical Center

*3500 Physicians Road
Southwestern Medicine*

ROBERT F. THOMPSON, M.D., F.A.C.S.

(Certified by American Board of Urology)

U R O L O G Y

301 University Towers Building
1900 N. Oregon St. KE 2-4321 El Paso, Texas



Southwestern Physicians' Directory



TURNER'S CLINICAL & X-RAY LABORATORIES

GEORGE TURNER, M.D.
DELPHIN von BRIESEN, M.D.
HELEN W. ANDERSON, M.D.

MEDICAL CENTER

1501 Arizona Ave.
Building No. 6

Phone: KE 2-4689
El Paso, Texas

HARRY H. VARNER, M.D.
LEIGH E. WILCOX, M.D.
RUSSELL L. DETER, M.D.
GENERAL SURGERY

Suite 5E

El Paso Medical Center

1501 Arizona Ave.

Phone KE 2-6529

El Paso, Texas

WILLIAM H. WADE, M.D., F.A.C.S.

Diplomate American Board of Surgery

GENERAL SURGERY
CARDIOVASCULAR SURGERY

307 Medical Arts Building
415 E. Yandell Drive KE 2-8111

El Paso, Texas

RICHARD P. WAGGONER, M.D.

M.S. (SURG.), F.A.C.S.

GENERAL SURGERY

504 N. Richardson St.

Phone 208

Roswell, N. M.

GRADY M. WALLACE, M.D., D.A.B.O.

Practice Limited to the Eye

3801 19th Street

SW 9-4343

Lubbock, Texas

Hotel Dieu, Sister's Hospital

Fully Approved by the
Joint Commission on Accreditation
of Hospitals.

Latest Facilities For All Services.
Emergency Service Around
the Clock.

EL PASO, TEXAS

Hotel Dieu School of Nursing

Fully approved by the
National Nursing Accrediting
Service.

Applicants May Apply
To
Sister Aloysius, Director

EL PASO, TEXAS

Hotel Dieu School of Medical Technology

Fully Approved by the American
Medical Association, American
Society of Clinical Pathologists,
and Registry of Medical Tech-
nologists.

EL PASO, TEXAS

The Clinic-Hospital of San Angelo

D. D. WALL, M.D.
Obstetrics & Gynecology
R. M. FINKS, M.D.
Pediatrics
M. D. KNIGHT, M.D.
Surgery
W. H. BRAUNS, M.D.
Internal Medicine

ROY E. MOON, M.D.
Obstetrics & Gynecology

CHAS. F. ENGELKING, M.D.
Ear, Nose and Throat

DALE W. HAYTER, M.D.
Ophthalmology

R. A. MORSE, M.D.
Internal Medicine
RALPH R. CHASE, M.D.
Pediatrics
TOM R. HUNTER, M.D.
Surgery
H. W. DISERENS, M.D.
Pediatrics

Consultant in Pathology: LLOYD R. HERSHBERGER, M.D.

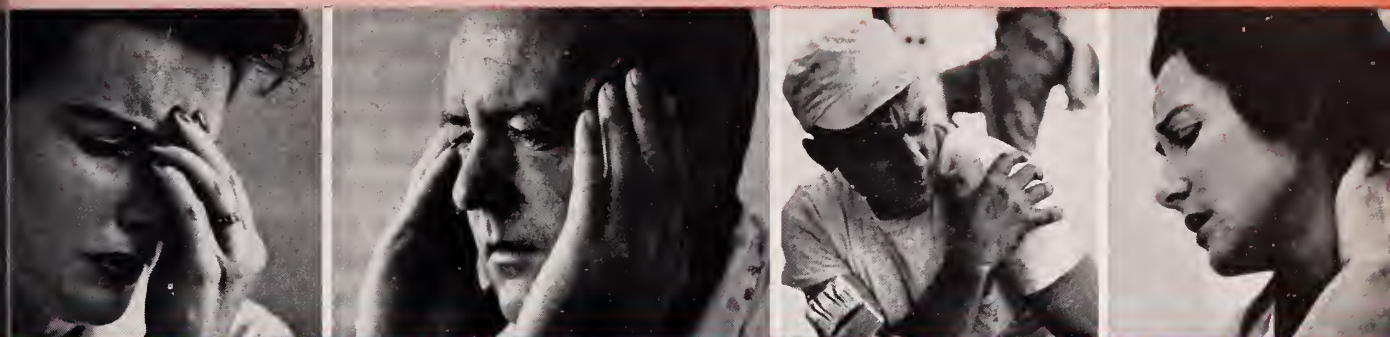
Consultants in Radiology: JOHN E. BALLARD, M. D.; JOHN G. BOLEN, M.D.

224-234 W. BEAUREGARD AVE.

J. B. ADCOCK, Administrator

SAN ANGELO, TEXAS

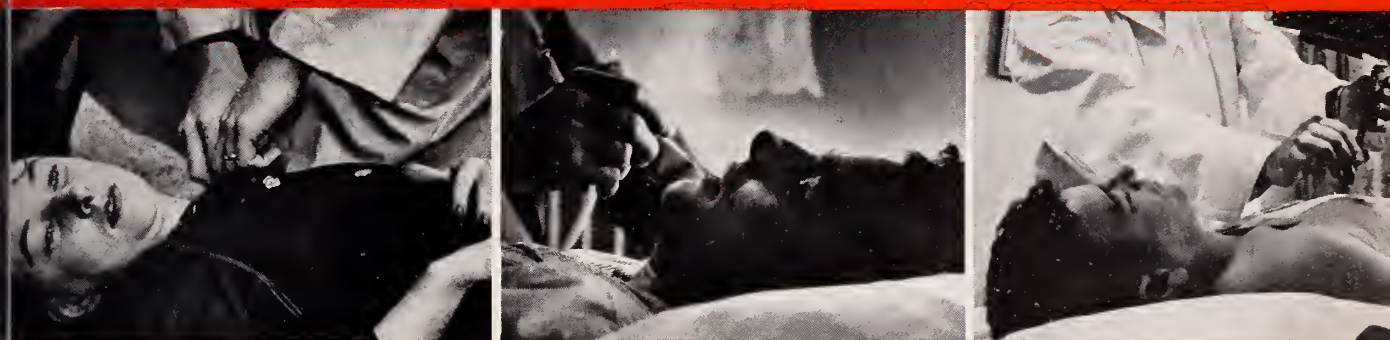
Percodan tablets effectively relieve pain through a range of



intensities commencing with moderate pain and extending



through major traumatic areas into further regions of severe pain



Percodan®

Salts of Dihydrohydroxycodine and Homatropine, plus APC)

TABLETS

for pain

prompt relief
profound relief
prolonged relief

ACTS FASTER—usually within 5-15 minutes. **LASTS LONGER**—usually 6 hours or more. **MORE THOROUGH RELIEF**—permits uninterrupted sleep through the night. **RARELY CONSTIPATES**—excellent for chronic or bedridden patients.

AVERAGE ADULT DOSE: 1 tablet every 6 hours. May be habit forming. Federal law permits oral prescription.

Each PERCODAN* Tablet contains 4.50 mg. dihydrohydroxycodine hydrochloride, 0.38 mg. dihydrohydroxycodine terephthalate, 0.38 mg. homatropine terephthalate, 224 mg. acetylsalicylic acid, 160 mg. acetophenetidin, and 32 mg. caffeine.

Also available—for greater flexibility in dosage—PERCODAN®-DEMI: The PERCODAN formula with one-half the amount of salts of dihydrohydroxycodine and homatropine.

Endo®

LITERATURE AVAILABLE ON REQUEST

ENDO LABORATORIES
Richmond Hill 18, New York

*U.S. Patent Nos. 2,628,185 and 2,907,768



Southwestern General Hospital

Accredited by the Joint Commission on Accreditation of Hospitals

Member Hospital:

American Hospital Association
Texas Hospital Association
Blue Cross of Texas

•

COTTON AVENUE AND ERIE STREET • EL PASO, TEXAS

OVERTON CLINIC

300 Hughes Building

PAMPA, TEXAS

M. C. Overton, Jr., M.D.

Surgery and Gynecology

E. S. Williams, M.D.

Pediatrics and Obstetrics

J. R. Donaldson, M.D.

Surgery

G. R. Hrdlicka, M.D.

Radiology

C. M. Lang, M.D.

Surgery

R. W. Moore, M.D.

Internal Medicine

DUTTON LABORATORIES

FREDERICK P. BORNSTEIN, M.D.

(Certified by American Board of Pathology)

Pathological Anatomy and Forensic Pathology

RITA L. DON, M.D.

(Associate Fellow, American College of Allergists)

Allergy and Clinical Pathology

JOHN B. FRERICHS, M.D.

(Certified by American Board of Pathology)

Pathological Anatomy and Clinical Pathology

J. A. HANCOCK, Ph.D.

Consultant in Chemistry

616 Mills Bldg.

KE 2-3901

102 University Towers

El Paso, Texas



Located in the heart of the beautiful Phoenix citrus area near picturesque Camelback Mountain, the hospital is dedicated exclusively to the treatment of psychiatric and psychosomatic disorders, including alcoholism.

This beautiful, heated swimming pool highlights the spacious lawn and recreation area at Camelback Hospital. Other outdoor activities include volley ball, ping pong, shuffleboard and badminton, all under the supervision of a trained therapist. Those preferring restful relaxation may enjoy a quiet conversation in the beautiful lawn and grove area with its scenic mountain backdrop.

Camelback Hospital



5055 North 34th Street

Crestwood 7-7431

PHOENIX, ARIZONA

OTTO L. BENDHEIM, M.D., F.A.P.A., MEDICAL DIRECTOR

Serving You 365 Days A Year

SOUTHWEST BLOOD BANKS

JOHN B. ALSEVER, M.D.

General Medical Director

Federally Licensed and Supervised by
Physicians from the Southwest to Provide
Blood and Plasma of Highest Quality on a
24-Hour Basis.

Albuquerque

El Paso

Harlingen

Houston

Lubbock

Phoenix

San Antonio

WANTED

STAFF PHYSICIAN

Accredited 249 bed hospital, thoracic diseases, pediatrics, general medicine, rehabilitation chronic disease.

Rural area, Sierra Nevada foothills. Starting salary \$725-\$766. Modern furnished house for family included.

TULARE-KINGS COUNTIES HOSPITAL

Springville

California

Give Us A Trial On Your

TAYLOR BACK BRACE

Orders

- Send the following measurements: from level of shoulders to tip of sacrum; circumference of pelvis above trochanters; circumference of waist; height and weight.

CHRISTOPHER'S BRACE AND LIMB CO.

2231 Montana St.

KE 2-9690

EL PASO, TEXAS

UNIFORMS

Doctors • Nurses • Interns • Technicians

Poplin, Nylon, Dacron
White and Colors

SURE-FIT UNIFORM CO.

612 N. Oregon St. KE 2-1374 EL PASO, TEXAS

C. G. McDow and Son, Props.

Rio Grande Pharmacy

419-421 South Stanton St. KE 2-4473 EL PASO, TEXAS

Only At The Popular In El Paso . . .

FINE HARTMANN LUGGAGE

POPULAR DRY GOODS CO.



GUNNING & CASTEEL DRUG STORES

"There is no finer prescription service . . . anywhere"

14 Conveniently Located Stores

El Paso, Texas

TAYLOR-SIMPKINS, INC.

MEDICAL OXYGEN

2123 Texas St. KE 3-0952 EL PASO, TEXAS

Nights — Call LO 5-0359, or LO 5-3060



MEDICAL CENTER PHARMACY

YOUR PROFESSIONAL PHARMACY
IN THE NEW MEDICAL CENTER

PHONE 2-6968-69

1501 ARIZONA ST.

EL PASO, TEXAS

We Carry A Complete Line of

DIABETIC FOODS AND SUPPLIES

McKEE PRESCRIPTION PHARMACY

107 East San Antonio Ave., El Paso

Dial KE 2-2693

For Your Convenience

Use Our Handy Charge-A-Plate Service!

the white house

El Paso, Texas

RICHARD E. MARTIN

MARTIN MORTUARY

Dial KE 2-3691

710 N. Stanton St.

El Paso, Texas

HARDING AND ORR Funeral Home

EL PASO, TEXAS

320 Montana Ave.

KE 3-1646

Kaster & Maxon

Funeral Home

El Paso, Texas

KE 2-3431



PSYCHIATRIC HOSPITAL

DAY HOSPITAL

DEPARTMENT OF OUT PATIENT PSYCHIATRY

TIMBERLAWN FOUNDATION

For Education and Research in Psychiatry

Narcotic Cases Not Admitted

TIMBERLAWN

PSYCHIATRIC CENTER

PERRY C. TALKINGTON, M.D., Clinical Director

CHARLES L. BLOSS, M.D., Medical Director

Associate Psychiatrists

HOWARD M. BURKETT, M.D.

JAMES K. PEDEN, M.D.

WARD G. DIXON, M.D.

JERRY M. LEWIS, M.D.

C. L. JACKSON, M.D.

RALPH M. BARNETTE, JR., B. B. A., Business Manager

Clinical Psychology

PHILIP ROOS, PH. D.

DONALD BERTOCH, M. A.

Social Work

BILL M. TURNAGE, M.S.S.W.

ROBERT L. COATES, M.S.S.W.

GERALDINE SKINNER, B.S., O.T.R., Director of Occupational Therapy

LOIS TIMMINS, PH.D., Director of Recreational Therapy

FRANCES LUMPKIN, R.N., B.S., Director of Nurses

EVERGREEN 1-2121

DALLAS 21, TEXAS

P. O. BOX 1769



Front View — Enclosed Patio

Sandia Ranch Sanatorium, Inc.

Rt. 4, Box 4104

Diamond 4-1618

Albuquerque, New Mexico

Licensed by State Health Department as a Psychiatric Hospital of 68 Beds

For the Care and Treatment of Nervous or Mental Disorders

VARIOUS ACCEPTED FORMS OF THERAPY AVAILABLE

OCCUPATIONAL THERAPY AND OUTDOOR ACTIVITIES

CLINICAL LABORATORY AND ELECTROENCEPHALOGRAPH

LIMITED FACILITIES FOR DOMICILIARY CARE

Favorable Year Round Climate — 20 Acres Landscaped Grounds

JOHN W. MYERS, M.D., Medical Director

ALAN JACOBSON, M.D., Psychiatrist

HENRY T. PENLEY, M.D., Psychiatrist

PROSTALL[™]

for Prostatic Hypertrophy

FACTS

FACTS

FACTS

FACT 1. Prostatectomy can often be avoided by expectant medical treatment.¹

FACT 2. More than 50% of men over 45 develop benign prostatic hypertrophy.²

FACT 3. Prostall capsules reduce prostatic enlargement in 92% of cases.³

FACT 4. Prostall capsules effectively relieve prostatic symptoms as follows:

nocturia 95%, urgency 81%, frequency 73%, discomfort 71% and starting delay 70%.⁴

FACT 5. Prostall causes no side effects.⁴ No contraindications.

PROSTALL capsules contain 6 gr. of glycine (aminoacetic acid), alanine and glutamic acid in biochemical combination.

DOSAGE: 2 capsules t.i.d. after meals for two weeks, thereafter 1 capsule t.i.d. for at least three months. Repeat if symptoms recur.

1. Chapman, T.L., Expectant treatment of benign prostatic enlargement, *Lancet* 2:684, 1949.
2. Hinman, F., The obstructive prostate, *J.A.M.A.* 135:136, 1947.

3. Feinblatt, H.M., and Gant, J.C., Palliative treatment of benign prostatic hypertrophy, *J. Maine M.A.* 49:99, 1958.

4. *Ibid.* 3, *Southwestern Med.* 40:109, 1959.

Write for Professional Literature

METABOLIC PRODUCTS, CORP.
37 HURLEY STREET • CAMBRIDGE, MASS.

FOSFREE

The Answer to
the Problem
of Pregnancy

NAUSEA

ANEMIA

LEG CRAMPS

Small • Tasteless • Inexpensive

Mission PHARMACAL CO.
SAN ANTONIO, TEXAS

Southwestern Surgical Supply Company

Your Complete Source in The Southwest
For All
Ethical Medical Equipment
and Supplies

EL PASO

ALBUQUERQUE

PHOENIX



rhinal nose drops

In Nasal Decongestant Therapy
when effective shrinkage
is desired in treating
Colds • Sinusitis
Allergic Rhinitis

- Rapid and prolonged action
- Small dosage—well tolerated
- Physiological rationale

Contains:

Phenylephrine Hydrochloride 0.15%,
'Propadrine' Hydrochloride 0.3%
In an Isotonic Saline Menstruum.

Samples on
request.



Prescribed by
physicians for
over 25 years.

RHINOPTO COMPANY 3905 Cedar Springs • Dallas, Texas

BLOOM RHINOPTO - # 279 - DEC '60



Why DEVEREUX SCHOOLS For Retarded Children?

Fifty per cent of the facilities of Devereux Schools are specifically designed for children with learning problems. Each child's program provides him with several unique benefits:

- ▶ It is designed specifically for the individual child.
- ▶ It is based on full medical, psychiatric, psychological and educational studies.
- ▶ It is supervised by a multi-disciplinary professional team.
- ▶ The total environment is therapeutically structured for optimal emotional as well as academic growth.

Physicians and parents in the Southwest please write direct to Devereux Schools of Texas, Box 336, Victoria, Texas.

JOHN M. BARCLAY, Administrator
GEORGE A. CONSTANT, M.D., Psychiatrist Consultant
WILLIAM A. GOODSPEED, M.S., Psychologist

THE DEVEREUX FOUNDATION

A nonprofit organization
Founded 1912
Devon, Pennsylvania
Santo Borboro, California
Victoria, Texas

SCHOOLS
COMMUNITIES
CAMPS
TRAINING
RESEARCH

HELENA T. DEVEREUX
Administrative Consultant

EDWARD L. FRENCH, Ph.D.
Director

Over 600,000,000
patient-days of
effective, well-toler-
ated antihypertensive
therapy...

Rauwiloid[®]

aiseroxylon, 2 mg.

is still unexcelled

**Just
two tablets
at bedtime**

Eight years of continuous use...
prove enduring patient-accept-
ance and physician-satisfaction
with RAUWILOID...*without any re-
visions of claims, changes of dosage,
or additional side actions encountered.*

Rauwiloid is an original development of



Northridge,
California

Janet Doe, Librarian
New York Academy of Medicine
2 East 103 Street
New York 29, New York

B

Southwestern MEDICINE

Official Journal of The Southwestern Medical Association, The Western Association of Railway Surgeons, The Texas Orthopaedic Association, The Southwest Obstetrical and Gynecological Society, The Southwestern Dermatological Society, Texas District One Medical Association, The Southwestern New Mexico Medical Society, and El Paso County Medical Society

THE N.Y. ACADEMY
OF MEDICINE
MAY 18 1961
LIBRARY

IN THIS ISSUE

- | | |
|--|----------|
| A Review of Infant Mortality in New Mexico
and the Bordering Mexican States
(Section II) | Page 215 |
| Evaluation of Triclobisonium Chloride in the
Treatment of Pyogenic Infections of the Skin | Page 221 |
| Clinical Pathological Conference
R. E. Thomason General Hospital, El Paso | Page 225 |

COMPLETE CONTENTS ON PAGE 206

May, 1961

VOL. 42, NO. 5



Founded 1916



RESTORE VITALITY...



to "the under-par child"*

NEW **Zentron**TM comprehensive liquid hematinic

- corrects iron deficiency
- restores healthy appetite
- helps promote normal growth

* underweight, easily fatigued, anorexic—due to mild anemia

Each 5-cc. teaspoonful provides:

Ferrous Sulfate (equivalent to 20 mg. of iron)	100	mg.
Thiamine Hydrochloride (Vitamin B ₁)	1	mg.
Riboflavin (Vitamin B ₂)	1	mg.
Pyridoxine Hydrochloride (Vitamin B ₆)	0.5	mg.
Vitamin B ₁₂ Crystalline	5	mcg.
Pantothenic Acid (as <i>d</i> -Panthenol)	1	mg.
Nicotinamide	5	mg.
Ascorbic Acid (Vitamin C)	35	mg.
Alcohol	2 percent.	

Usual dosage:

Infants and children—1/2 to 1 teaspoonful (preferably at mealtime) one to three times daily.

Adults—1 to 2 teaspoonfuls (preferably at mealtime) three times daily.

ZentronTM (iron, vitamin B complex, and vitamin C, Lilly)



MILD—MODERATE—**SEVERE**
GASTROINTESTINAL DISORDERS

Pro-Banthine®
Brand of propantheline bromide

TABLETS
AMPULS

One characteristic of Pro-Banthine which has won it general medical acceptance is its versatility. Pro-Banthine has proved highly useful in the management of gastrointestinal disorders varying widely in both symptoms and severity.

In peptic ulcer and in other disorders characterized by hyperacidity, hypermotility or spasm of the enteric tract, Pro-Banthine controls symptoms with a consistency attested in more than 375 published reports.

This therapeutic proficiency results not merely from the high level of pharmacodynamic activity of Pro-Banthine but also from a favorable balance of its actions on both autonomic ganglia and parasympathetic effector organs. The total effect of this activity permits doubling or tripling the usual dosage to relieve severe or intractable conditions without unduly extending or aggravating secondary actions.

Less than a satisfactory response¹ to Pro-Banthine may often be simply a result of less than adequate dosage.

Pro-Banthine, brand of propantheline bromide, is supplied in tablets of 15 mg. for oral administration in conditions such as peptic ulcer, gastritis, duodenitis, pylorospasm, biliary dyskinesia and spastic colon, and in ampuls of 30 mg. for intramuscular or intravenous administration in conditions such as ureteral spasm and pancreatitis in which prompt and vigorous effects are required or when nausea and vomiting preclude oral administration.

Usual adult dosage: One tablet four times daily. Up to four tablets may be administered four times daily for severe manifestations.

When emotional factors prevail —

PRO-BANTHINE® with DARTAL®

Brand of propantheline bromide with thiopropazate dihydrochloride
(Not more than four tablets daily.)

or

PRO-BANTHINE® with Phenobarbital

1. Krantz, J. C., Jr., and Carr, C. J.: The Pharmacologic Principles of Medical Practice, Baltimore, The Williams & Wilkins Company, 1958, p. 843.

G. D. SEARLE & CO., CHICAGO 80, ILLINOIS. *Research in the Service of Medicine*

Southwestern Medicine

*The U. S.-Mexico Regional Medical Journal Serving West
Texas, New Mexico, Arizona, Nevada and Northern Mexico*

Official Journal of

The Southwestern Medical Association, The Western Association of
Railway Surgeons, The Texas Orthopaedic Association, The
Southwest Obstetrical and Gynecological Society, The
Southwestern Dermatological Society, Texas District
One Medical Association, The Southwestern New
Mexico Medical Society, and El Paso County
Medical Society

VOL. 42

MAY, 1961

No. 5

BOARD OF MANAGERS

Sherwood Burr, M.D.	Leland Evans, M.D.
Harold J. Beck, M.D.	Darwin Neubauer, M.D.
David Russek, M.D.	Carlos Tapia, M.D.
M. D. Thomas, M.D.	Louis W. Breck, M.D.
John Dettweiler, M.D.	H. D. Garrett, M.D.
Russell L. Deter, M.D.	Jack A. Bernard, M.D.
Louis G. Jekel, M.D.	Morton H. Leonard, M.D.
John F. Wanless, M.D.	

EDITOR Lester C. Feener, M.D.
404 Banner Building, El Paso, Texas

MANAGING EDITOR Louis W. Breck, M.D.
1220 North Stanton Street, El Paso, Texas

ASSOCIATE EDITORS
Branch Craige, M.D. Maurice P. Spearman, M.D.

ADVERTISING AND SUBSCRIPTION OFFICES

Mott, Reid & McFall
Publishers

310 N. Stanton St., El Paso, Texas

Publication Office

265 Texas St., Fort Worth, Texas

Subscription Price \$5.00 — Single copies 50c

Published Monthly

Gordon M. Marshall — National Advertising Representative
30 West Washington Street, Chicago, Ill., Dearborn 2-5148;
Eastern Office — John H. Hinse, Room 340, 15 West 44th Street
New York 36, Oxford 7-5262.

Second-class mail privileges authorized at Fort Worth, Texas
Postmaster: All undeliverable copies returnable under Form 3579
should be to Southwestern Medicine, 310 North Stanton Street,
El Paso, Texas.




Providence Memorial Hospital

The Modern Hospital of the Southwest

APPROVED BY THE JOINT COMMISSION ON ACCREDITATION OF HOSPITALS

COMPLETE DIAGNOSTIC and TREATMENT FACILITIES
ISOTOPE THERAPY AND STUDIES COBALT 60 ROTATIONAL TELETHERAPY UNIT
OUTSTANDING CHEMISTRY LABORATORY
FACILITIES FOR PSYCHIATRIC THERAPY ELECTROENCEPHALOGRAPHIC LABORATORY
2001 North Oregon Street El Paso, Texas



sedative-
enhanced
analgesia

for more satisfactory relief of anxiety-motivated pain

PHENAPHEN[®]

- More satisfactory than "the usual analgesic compounds" for relieving pain and anxiety.¹
- More effective than a standard A.P.C. preparation for relief of moderate to severe pain.²

Each PHENAPHEN capsule contains:

Acetylsalicylic acid (2½ gr.) 162 mg.
Phenacetin (3 gr.) 194 mg.
Phenobarbital (¼ gr.) 16.2 mg.
Hyoscyamine sulfate 0.031 mg.

Also available:

PHENAPHEN with CODEINE PHOSPHATE
¼ GR. (16.2 mg.) Phenaphen No. 2
PHENAPHEN with CODEINE PHOSPHATE
½ GR. (32.4 mg.) Phenaphen No. 3
PHENAPHEN with CODEINE PHOSPHATE
1 GR. (64.8 mg.) Phenaphen No. 4

Bottles of 100 and 500 capsules.

1. Meyers, G. B.: Ind. Med. & Surg. 26:3, 1957. 2. Murray, R. J.: N. Y. St. J. Med. 53:1867, 1953.

A. H. ROBINS CO., INC., RICHMOND 20, VIRGINIA

Making today's medicines with integrity... seeking tomorrow's with persistence.



Contents

A Review of Infant Mortality in New Mexico and the Bordering Mexican States (Section II) By Roy F. Goddard, M.D., Albuquerque; Stanley J. Leland, M.D., Santa Fe; and John C. Cobb, M.D., Baltimore	Page 215
Evaluation of Triclobisonium Chloride in the Treatment of Pyogenic Infections of the Skin. By Charles S. Lincoln, Jr., M.D., and Ray C. Nordstrom, M.D., Berkeley, Calif.	Page 221
Clinical Pathological Conference; R. E. Thomason General Hospital, El Paso F. P. Bornstein, M.D., Editor Presentation of case by E. S. Mongan, M.D.	Page 225
Cancer Conference to be held in Denver	Page 231

COMING MEETINGS

New Mexico Medical Society, 79th Annual Meeting. La Fonda Hotel, Santa Fe, May 17-20, 1961.

Postgraduate Course, Physical Medicine and Rehabilitation for the Clinician, University of Colorado Medical Center, May 31-June 1, 1961. A.A.G.P. Category I credit.

United States-Mexico Border Public Health Association, Annual Meeting, San Diego, June 25-29, 1961.

Rocky Mountain Cancer Conference, Hotel Brown Palace West, Denver, July 12, 13, 1961.

Postgraduate Course in Pediatrics, The University of Colorado School of Medicine, Stanley Hotel, Estes Park, Colorado, August 21-25, 1961.

Western Association of Railway Surgeons, Annual Meeting, Holiday Hotel, Reno, Nev., Sept. 28-30, 1961.

Southwest Obstetrical & Gynecological Society, Eleventh Annual Meeting, Konakai Club, San Diego, Oct. 15-17, 1961.

Southwestern Medical Association, 43rd Annual Meeting, Tropicana Hotel, Las Vegas, Nev., Oct. 19-21, 1961.

Urised combats bacteria while providing soothing relief in cystitis, urethritis, pyelitis, pyelonephritis, and prostatitis. Urised avoids toxic reactions or drug resistance.

as a first choice **URISED[®]**
is effective in 80 to 90%
of urinary infections^{1,2,3,4} (no side effects reported)

Each Urised tablet contains: Atropine Sulfate 1/2000 gr., Hyoscyamine 1/2000 gr., Methenamine, Methylene Blue, Benzoic Acid, Salol and Gelsemium. *Supplied:* Bottles of 100.

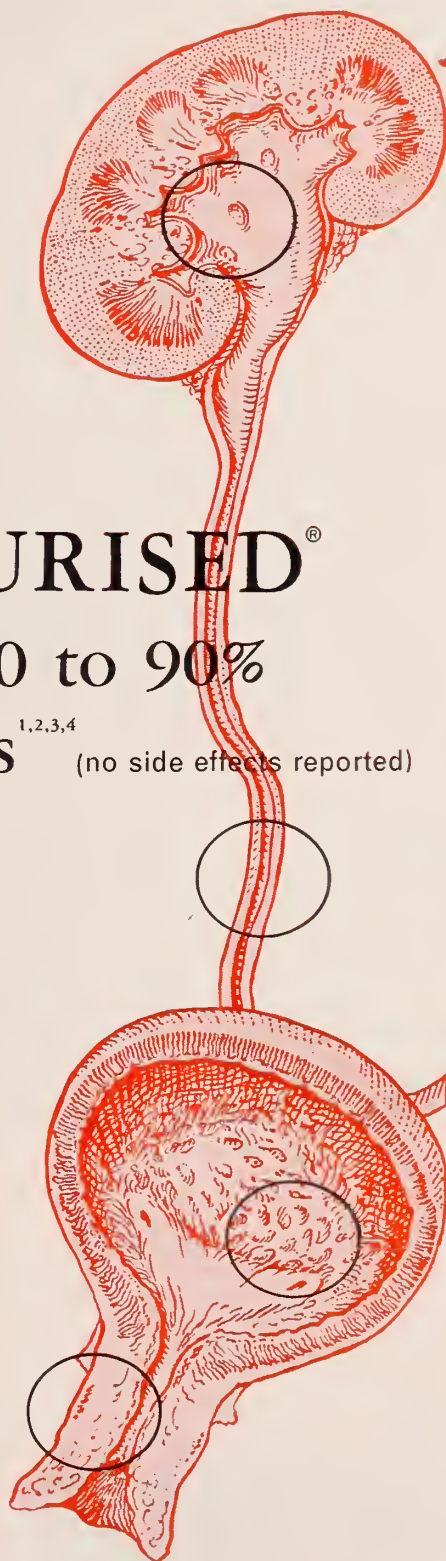
(1) Marshall, W.: Clin. Med. 7:499-502, 1960; (2) Haas, J., and Kay, L. L.: Management of Urinary Tract Infections (to be published); (3) Renner, J., et al.: Urinary Tract Infections: Treatment with Antiseptic-Antispasmodic Agent (to be published). (4) Strauss, B.: Clin. Med. 4: 309-310, 1957



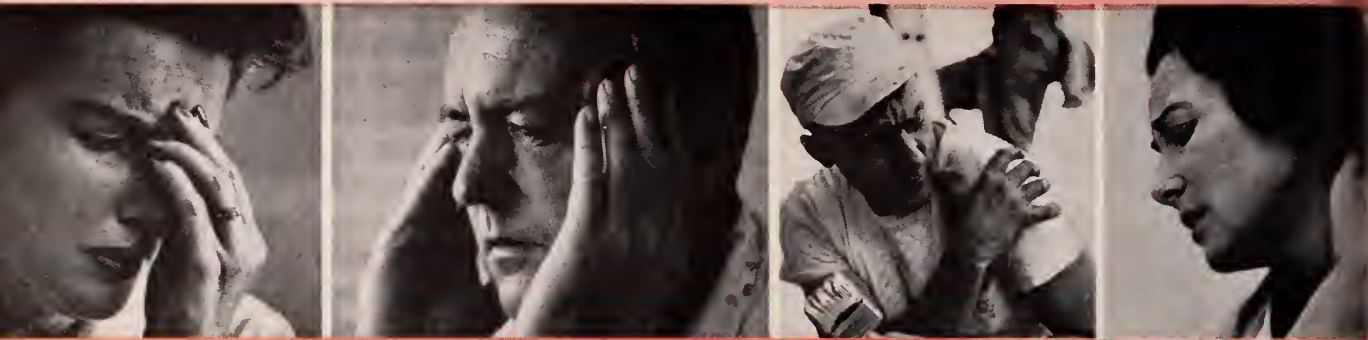
Rx URISED[®]

CHICAGO PHARMACAL COMPANY

5547 N. Ravenswood Ave., Chicago 40, Ill.



Percodan tablets effectively relieve pain through a range of



intensities commencing with moderate pain and extending



through major traumatic areas into further regions of severe pain



Percodan[®]

Salts of Dihydrohydroxycodone and Homatropine, plus APC)

TABLETS

for pain

prompt relief
profound relief
prolonged relief

ACTS FASTER—usually within 5-15 minutes. **LASTS LONGER**—usually 6 hours or more. **MORE THOROUGH RELIEF**—permits uninterrupted sleep through the night. **RARELY CONSTIPATES**—excellent for chronic or bedridden patients.

AVERAGE ADULT DOSE: 1 tablet every 6 hours. May be habit forming. Federal law permits oral prescription.

Each PERCODAN* Tablet contains 4.50 mg. dihydrohydroxycodone hydrochloride, 0.38 mg. dihydrohydroxycodone terephthalate, 0.38 mg. homatropine terephthalate, 224 mg. acetylsalicylic acid, 160 mg. acetophenetidin, and 32 mg. caffeine.

Also available—for greater flexibility in dosage—PERCODAN®-DEMI: The PERCODAN formula with one-half the amount of salts of dihydrohydroxycodone and homatropine.

Endo

LITERATURE AVAILABLE ON REQUEST

ENDO LABORATORIES
Richmond Hill 18, New York

*U.S. Patent Nos. 2,628,185 and 2,907,768

What now?



Chymar[®] for one thing

THE SUPERIOR SYSTEMIC ANTI-INFLAMMATORY ENZYME

to control inflammation, swelling and pain in ACCIDENTAL TRAUMA and general surgery^{1,3}

In a study of 491 cases that included 47 fractures, 45 tonsillectomies, 61 herniotomies and 31 cyst removals, it was concluded that: "chymotrypsin reduces or prevents traumatic and surgical edema and hematoma, accelerates absorption of blood and lymph effusions, reduces pain, promotes wound-healing, and may enhance or augment the action of antibiotics."¹

1. Cigarroa, L. G.: J. Internat. Coll. Surgeons 34:442, 1960. 2. Teitel, L. H., et al.: Indust. Med. 29:150, 1960. 3. Billow, B. W., et al.: Southwestern Med. 41:286, 1960.

© January 1961, A. P. Co.

ARMOUR PHARMACEUTICAL COMPANY
KANKAKEE, ILLINOIS • *Armour Means Protection*

*the systemic
route to
faster
healing at
any location*



CHYMAR

Chymar Aqueous and Chymar (in oil) contain chymotrypsin, a proteolytic enzyme with systemic anti-inflammatory and antiedematous properties. **ACTION:** Reduces inflammation of all types; reduces and prevents edema except that of cardiac or renal origin; hastens absorption of blood and lymph extravasates; restores local circulation; promotes healing; reduces pain. **INDICATIONS:** Chymar is indicated in respiratory conditions to liquefy thickened secretions and suppress inflammation of mucosa and bronchiolar tissue; in accidental trauma to speed reduction of hematoma and edema; in inflammatory dermatoses to ameliorate acute inflammation in conjunction with standard therapies; in gynecologic conditions to suppress inflammation and edema and stimulate healing; in surgical procedures to minimize surgical trauma with inflammation and swelling; in genito-urinary disorders to reduce pain and promote faster resolution; in ophthalmic and otorhinolaryngic conditions to lessen hematoma, edema and inflammatory changes; in dental procedures to lessen pain and gum tissue trauma, with inflammation and swelling, in reaction to extractions or surgery. **PRECAUTIONS:** Chymar and Chymar Aqueous are for intramuscular injection only. Although sensitivity to chymotrypsin is uncommon, allergic or anaphylactic reactions may occur with any foreign protein. The usual remedial agents should be readily available in case of untoward reaction. Precautions (scratch testing for Chymar, scratch or intradermal testing for Chymar Aqueous) should be exercised in those patients with known or suspected allergies or sensitivities. **DOSAGE:** 0.5 cc. to 1.0 cc. deep intramuscularly once or twice daily, depending on severity of condition. Decrease frequency as course of condition is altered. In chronic or recurrent conditions, 0.5 cc. to 1.0 cc. once or twice weekly. **SUPPLIED:** 5 cc. vials, 5000 Armour Units of proteolytic activity per cc.





Why

DEVEREUX SCHOOLS

For Retarded Children?

Fifty per cent of the facilities of Devereux Schools are specifically designed for children with learning problems. Each child's program provides him with several unique benefits:

- ▶ It is designed specifically for the individual child.
- ▶ It is based on full medical, psychiatric, psychological and educational studies.
- ▶ It is supervised by a multi-disciplinary professional team.
- ▶ The total environment is therapeutically structured for optimal emotional as well as academic growth.

Physicians and parents in the Southwest please write direct to Devereux Schools of Texas, Box 336, Victoria, Texas.

JOHN M. BARCLAY, Administrator
GEORGE A. CONSTANT, M.D., Psychiatrist Consultant
WILLIAM A. GOODSPEED, M.S., Psychologist

THE DEVEREUX FOUNDATION

A nonprofit organization
Founded 1912
Devon, Pennsylvania
Santa Barbara, California
Victoria, Texas

SCHOOLS
COMMUNITIES
CAMPS
TRAINING
RESEARCH

HELENA T. DEVEREUX
Administrative Consultant

EDWARD L. FRENCH, Ph.D.
Director

Q
U
A
L
I
T
Y



P
A
P
E
R
S

EXAMINATION TABLE ROLLS

All Sizes Available
Smooth and Crepe Paper

PROFESSIONAL TOWELS

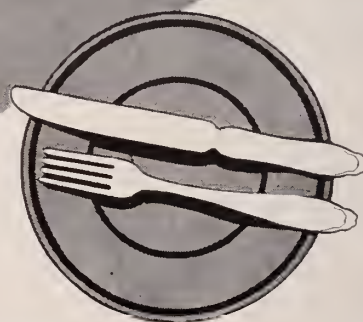
Best Quality Cellulose
White and Green

ASK YOUR SUPPLIER FOR TIDI.

TIDI PRODUCTS are always of best quality,
uniform, and economical in use.

Distributed throughout the USA
M'fd. by TIDI PRODUCTS, Pomona, California

FETAMIN FOR OBESITY



Mission
PHARMACAL CO.
SAN ANTONIO, TEXAS

- More Powerful
- Less Pressor Activity
- Avoids Nervous Side Effects
- Complete Dietary Supplement

FOR EFFECTIVE FLUID MAINTENANCE THERAPY[†]

ISOLYTE[®] M

Composition per Liter							
Dextrose Gm.	Milliequivalents					Calories	mOs.
	Na ⁺	K ⁺	CL ⁻	Lact ⁻	HPO ₄ ⁼		
50	40	35	40	20	15	180	400

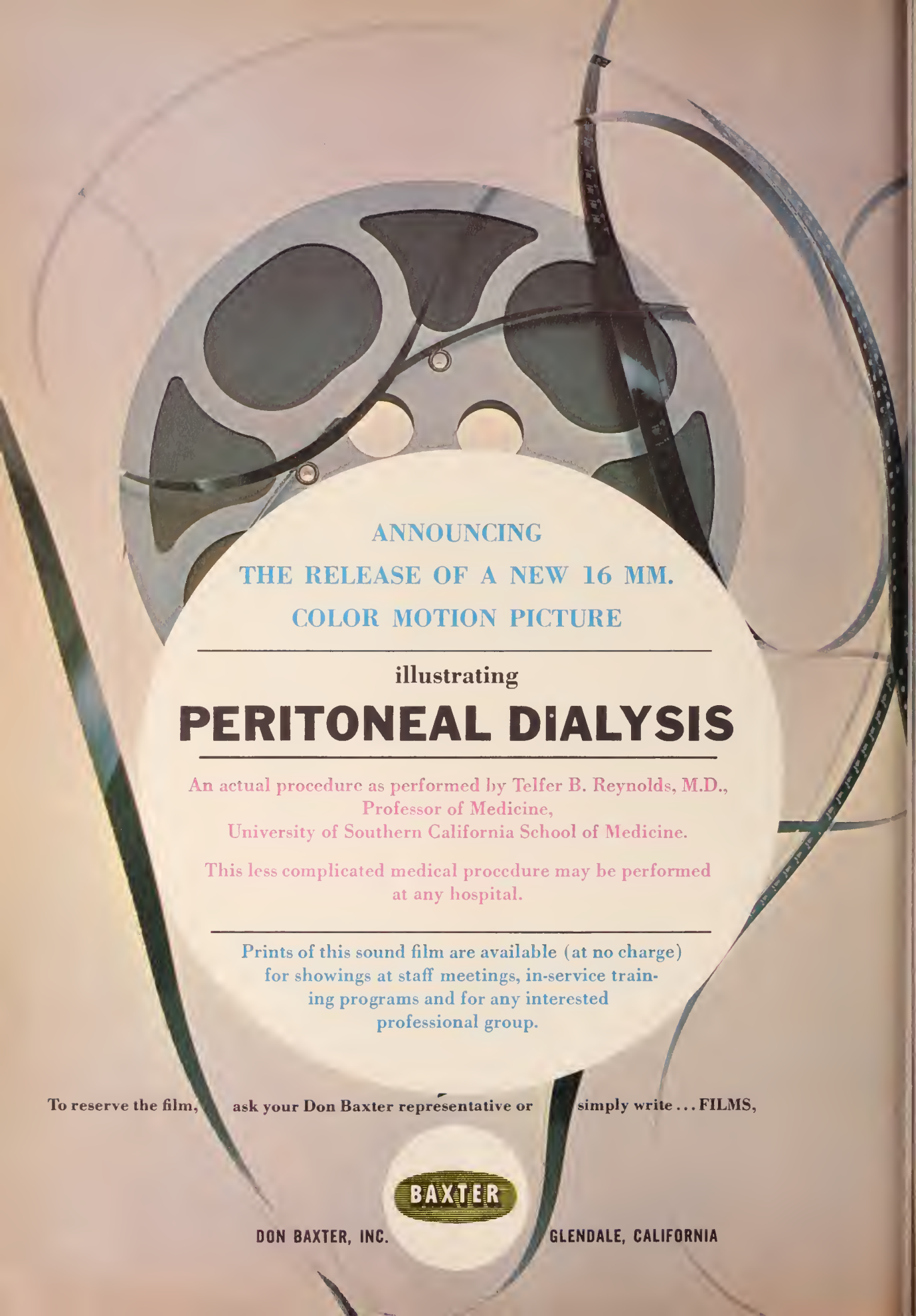
[†]Bicarbonate precursor



[†]Border, J., Tolbot, N., Terry, M., and Lincoln, G.: Use of Multiple Electrolyte Solution to Prevent Disturbances in Water and Electrolyte Metabolism, *Metabolism* 9:897-904 (October) 1960.

DON BAXTER, INC. • GLENDALE, CALIFORNIA





ANNOUNCING
THE RELEASE OF A NEW 16 MM.
COLOR MOTION PICTURE

illustrating
PERITONEAL DIALYSIS

An actual procedure as performed by Telfer B. Reynolds, M.D.,
Professor of Medicine,
University of Southern California School of Medicine.

This less complicated medical procedure may be performed
at any hospital.

Prints of this sound film are available (at no charge)
for showings at staff meetings, in-service training
programs and for any interested
professional group.

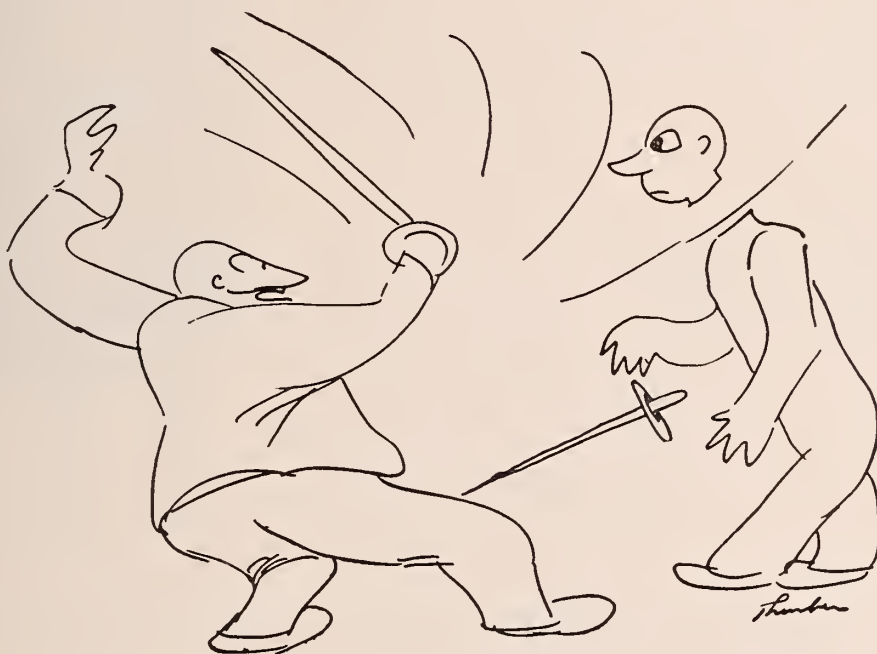
To reserve the film, ask your Don Baxter representative or simply write ... FILMS,



BAXTER

DON BAXTER, INC.

GLENDAL, CALIFORNIA



"Touché!"

COPYRIGHT © 1932 JAMES THURBER

For a better way to treat headache,
prescribe **Trancoprin®**

How Trancoprin relieves pain: Because most pain is accompanied by muscle spasm and tension, good medical practice suggests use of an analgesic that will relax skeletal muscles as well as dim pain perception. Such an analgesic is Trancoprin — a combination of aspirin and Trancopal®, a proved, safe, skeletal muscle relaxant and tranquilizer. Trancoprin can be prescribed for any pain, except pain of such severity that a narcotic is needed.

Dosage: Adults, 2 tablets three or four times daily; children (5 to 12 years), 1 tablet three or four times daily. Each tablet contains 300 mg. of aspirin and 50 mg. of Trancopal (brand of chlormezanone). Bottles of 100 tablets.

Winthrop LABORATORIES
New York 18, N.Y.

15724

*Desiccate those unsightly
dossibly dangerous skin
growths with the
ever-ready, quick and
simple to use*

BIRTCHER
HYFRECATOR[®]

*More than 150,000
instruments in daily use.*



For A Demonstration and Additional Information — Contact Your Local Supplier

IN ALBUQUERQUE

Allied Medical Supply, Inc.
1506 Central Avenue, S. E.
Albuquerque, New Mexico
CH 2-4795

IN AMARILLO

Hunter Hospital Supply
617 West 7th Street
Amarillo, Texas
DR 3-3701

IN LUBBOCK

Hunter Hospital Supply
814 Avenue Q
Lubbock, Texas
PO 5-9426

IN PHOENIX

Allied Medical Supply of Arizona, Inc.
3633 West Orange Avenue
Phoenix, Arizona
YE 7-2831

IN TUCSON

Arizona Medical Supply Company
1027 East Broadway
Tucson, Arizona
MA 3-7581



*Birtcher —
One quarter century
of honest value —
Sincerely Presented*

A Review of Infant Mortality in New Mexico and the Bordering Mexican States

(Section II)

ROY F. GODDARD, M.D., *Albuquerque*

STANLEY J. LELAND, M.D., *Santa Fe*

JOHN C. COBB, M.D., *Baltimore*

Programs Which Have Contributed to Lowering Infant Mortality in New Mexico

During the past five years in the State of New Mexico there has been a concentrated effort by various organizations to cooperate in programs which would reduce the infant mortality and morbidity in the State of New Mexico.

A. Statewide Programs

1. New Mexico Medical Society

In 1955 the New Mexico Medical Society organized a Committee on Maternal and Infant Mortality to study the problem in New Mexico and what might be done by the medical society to aid in improvement of the situation.

This Committee has now been in existence for over four years and has made considerable progress in getting the doctors of the state to fill out forms on infant mortality and morbidity, including specifically three types of information sheets, (a) neonatal mortality, (b) infant deaths over the age of 28 days, and (c) stillbirths.

These reports are filled out by the doctor and sent to the Division of Vital Statistics in Santa Fe where they are re-typed and given a code number. Each case is then referred to study committees of

which there are four pediatric study committees, one stillborn, and one maternal study committee.

These committees meet and discuss the individual case and classify the cause of death into preventable, non-preventable, error in medical judgment, error in medical technique, etc. The committee then returns this form to the State Health's Maternal and Child Health Division where it is reviewed and placed in the Vital Statistics of the State of New Mexico and incorporated into the statistics of the committee.

At the 78th Annual Meeting of the New Mexico Medical Society in May 1960, an entire afternoon session was devoted to "Problems of the Newborn", at which time the Maternal and Infant Mortality Committee reported on the work they had been doing in the last four years. Chairmen of an Obstetrical Committee and Pediatric Committee gave reports specifically on those aspects of the problem in New Mexico.

This was followed by a symposium on the "Improvement of Perinatal, Morbidity and Mortality" with visiting physicians from other sections of the United States presenting some of the programs which are going on in other parts of the country.¹¹

*Published in three sections in successive issues of SOUTH-WESTERN MEDICINE.

Another whole day of the Medical Society's program was set aside for a "Symposium on Infectious Disease Control in the Hospital," which is very closely integrated with infant mortality and staphylococcal outbreaks in hospitals. This program was jointly sponsored by the Public Health Committee of the New Mexico Medical Society and the New Mexico Department of Public Health.

In addition to the above programs which the New Mexico Medical Society has instituted, it has encouraged exhibits on infant mortality at its State Meetings. One such exhibit was "An Approach to the Problem of Neonatal Mortality."¹² Another was "The Problem of Infant Diarrhea in New Mexico", prepared by the New Mexico Medical Society's Committee on Maternal and Infant Mortality and presented at the 78th annual meeting of the New Mexico Medical Society in May 1960.¹³ Such exhibits are designed to acquaint the physicians of the State with some of the problems that exist in New Mexico and encourage them to be more conscientious in the care of newborns and in reporting their deaths and attempting to get complete autopsies on those infants who succumbed.

2. *New Mexico Department of Public Health*

In Figure 8 are outlined some of the programs which the New Mexico Public Health Department has initiated to help improve the overall situation in New Mexico: (1) prenatal clinics are held throughout the state, as well as (2) well-child conferences for follow-up of infants and immunization programs; (3) assistance to medically indigent patients is given, with reference to complicated deliveries, premature infants, and other special situations (particularly in the County of San Miguel).

New Mexico Public Health Department Programs

1. Pre-natal Clinics
2. Well-child Conferences
3. Medical indigent assistance (complicated deliveries, premies)
4. Post-natal nursing visits
5. Vital Statistics Studies

Figure 8

You will recall from Figure 6 that San Miguel has the highest infant mortality rate in the State at the present time, with a very low per capita income and a very high percentage of infants born out of wedlock. The State is trying to assist this county and has planned to help in other counties where it is indicated.

Other programs consist of (4) post-natal nursing visits, at which time public health nurses visit the home and instruct mothers in post-natal care of the infant. Needless to say, (5) the Vital Statistics studies, which are being conducted by the State Health Department, are an important part of the program in New Mexico. We hope that in the years to come such diagnoses as immaturity will no longer be accepted, as they are not now in many of the states of the United States. Certainly, in the past ten years the Department of Vital Statistics has begun to collect the first real figures of any meaning to the State in this respect.

The New Mexico State Health Department has collaborated with the Communicable Disease Center of the National Public Health Department and the American Academy of General Practice in sponsoring a course in January of 1957 on "Epidemiology of Infant Mortality in the State of New Mexico".⁷ An entire morning was spent with the participation of doctors from the Infant-Maternal Mortality Committee, of those in hospital and research programs, and participants from the New Mexico Public Health Department.

3. *Division of Indian Health, United States Public Health Service*

The Division of Indian Health of the United States Public Health Service has been vitally interested in the infant mortality and morbidity in the Indian population in New Mexico. In their studies they have offered some interesting figures for the total Indian population. Comparative statistics are becoming available for the different tribes, the Navajos, the Pueblos, the Apaches, and other Indian tribes.

From these data many interesting statistics are available; for example, in 1955 there were considerably more deaths among the Navajos than the Pueblos. This may be influenced by several factors, including the growth of the Navajo population from 9,000 in 1868 to 85,000 today, or an

increase of almost 1000 per cent. The Pueblo race, on the other hand, has remained more stationary. Similarly, in 1957 in the Navajo population, the number of live births per 1000 women of child bearing age (15-44) was 220; it was 163 for the non-whites in the United States, and 117 for the white population in the United States. Comparatively, in a sample of the Navajo population at Many Farms, Arizona, the number of infant deaths per 1000 women of child bearing age was 22 infants for the Navajo; nine for the non-white, and three for the white population in these years.¹⁴

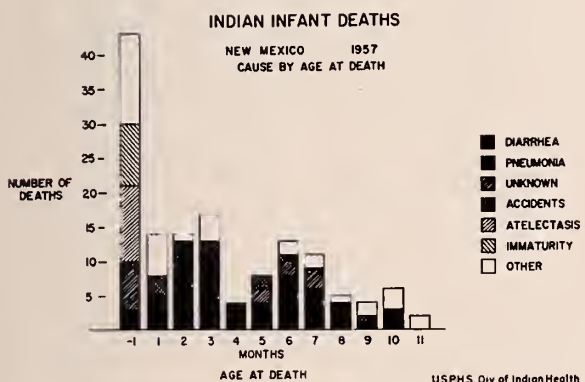


Figure 9

In figure 9 Indian infant deaths in the State of New Mexico for the year 1957 are plotted by the age at death, and by causes. Under the age of one month the primary causes of death are immaturity and atelectasis. From the first to the tenth month, pneumonia and accidents become a very significant factor, and diarrhea is probably the most significant factor from the age of two to seven months. Other charts by the Indian Health Service show that the predominance of diarrhea occurs during the months of July, August, and September.¹⁵

B. Local Programs

Many Counties and cities throughout New Mexico have instituted programs locally to improve the mortality-morbidity situation. As an example, the Dona Ana County Medical Society has instituted prenatal clinics, staffed by the private physicians of the Medical Society.

The City of Albuquerque has five medical hospitals in which maternal and newborn services are

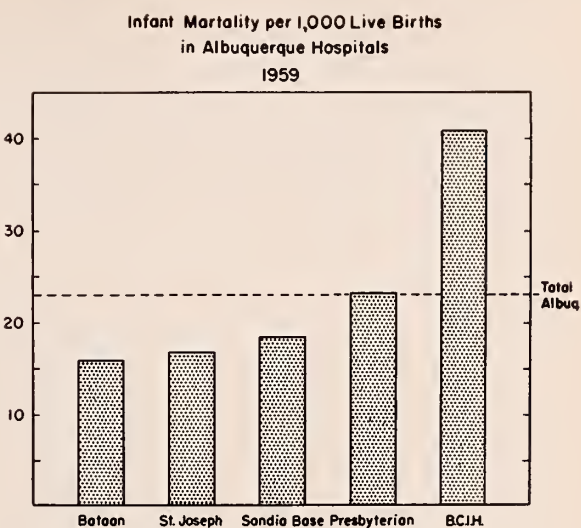


Figure 10

an integral part of the hospital (there are two Osteopathic Hospitals, which also maintain those services; data from these hospitals is not available at this time).

In figure 10 the over-all mortality rate in 1959 for the entire City of Albuquerque was 22.8 per 1000 live births; for the Bataan Memorial Methodist Hospital, 16.2; St. Joseph's Hospital, 16.7; Sandia Base Army Hospital, 18.6; Presbyterian Hospital, 23; and the Bernalillo County-Indian Hospital, 41. Essentially, then all of the private hospitals and the Army Base Hospital have a mortality rate of 20 or less (Presbyterian Hospital's figures for the two years, 1958-1959, is 19.9 per 1000 live births. The high of 23 here is due to the higher percentage of premature infants born in 1959).

The Bernalillo County-Indian Hospital patients receive less adequate prenatal care with a high percentage of the patients being of Indian and Spanish extraction and of poor socio-economic background. Many of these factors contribute to the doubled rate of this hospital as contrasted to the private hospitals. (Preliminary statistics in the Community Obstetrical Study in Hartford, Connecticut, show a similar relationship between the City hospital and the four private hospitals participating in that study).¹¹ It is significant that each of these Albuquerque hospitals has an Infant Mortality Committee and they are now meeting

together to try to improve procedures for the entire City of Albuquerque.

In addition to the medical profession and hospital staffs which are cooperating in improving this mortality-morbidity situation in infants in the various cities, some of the lay organizations have taken an active part in helping out with this problem.

The Albuquerque Kiwanis Club, a businessmen's organization, has accepted the Bataan Premature Nursery Center of the Bataan Memorial Methodist Hospital as one of its primary projects for the past six years. This club donates \$1,000 per year to this Center. For the first four years, the money was appropriated for the purchase of equipment, and during the last two years it has been divided, half for equipment and half for the care of indigent patients and special nursing care for these premature infants.

It is hoped some day that the various Kiwanis Clubs throughout the State of New Mexico will support this program and refer infants from the various towns to the Bataan Hospital Premature Nursery Center, with each individual club sponsoring financially the patient they refer.

C. Hospital Programs

A number of the individual hospitals throughout the State have instituted programs of their own. Most of these hospitals now have Maternal-Infant Mortality Committees, as well as Infectious Disease Committees. These Committees meet actively to discuss the causes of infant death and whether they are preventable or non-preventable. A number of these hospitals have printed their own special forms for the convenience of their hospital staffs, in addition to filling out the forms of the New Mexico Medical Society's Infant Mortality Committee Study.

Figure 11 shows comparative data for three representative hospitals. The first represents a small compact unit, the smallest county in the State, Los Alamos, with a population of about 13,500. There is a high percentage of doctors per 1000 population, and a high per capita income. Presumably the most ideal conditions in the State

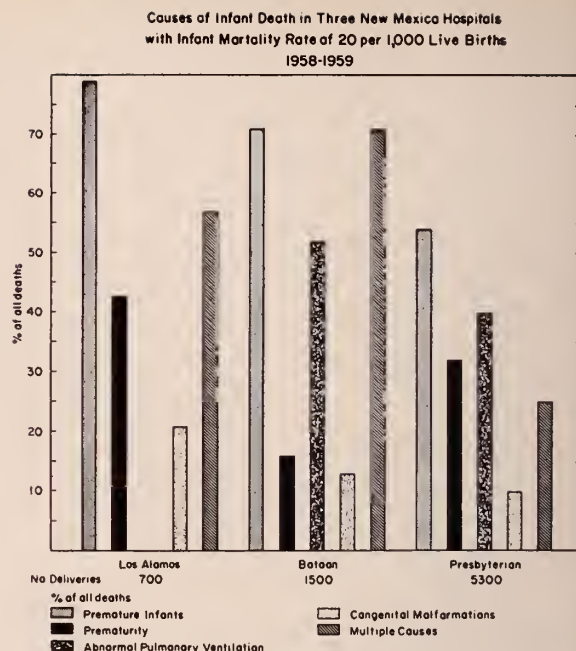


Figure 11

exist at the Los Alamos Medical Center. Approximately 350 deliveries per year (or 700 in two years) occur in this hospital.

The second hospital is the Bataan Memorial Methodist Hospital in Albuquerque, where considerable research has been done in infant mortality. This hospital averages 750 to 800 births per year (or 1500 during the years 1958-59). The third hospital is Presbyterian Hospital in Albuquerque. This hospital is the largest maternity-infant center in the State, averaging between 2,600 and 2,700 births per year (or 5,300 for the years 1958-59).

The causes of death have been separated into five main headings by percentage of the total deaths. For example, the per cent of all deaths that were premature infants was 79 for Los Alamos, 71 for Bataan and 54 for Presbyterian. The per cent of all deaths for which the primary cause of death was prematurity alone as a diagnosis was 43 per cent in Los Alamos, 16 at Bataan and 32 at Presbyterian.

Abnormal pulmonary ventilation did not figure in the deaths at Los Alamos during these two years, but constituted 52 per cent of the total primary cause of all deaths at Bataan and 40 per

cent at Presbyterian. Congenital malformations constituted 21 per cent of all deaths at Los Alamos, 13 per cent at Bataan and 10 per cent at Presbyterian. Those infants who died as a result of multiple causes, (i.e. prematurity, abnormal pulmonary ventilation, intracranial hemorrhage, congenital malformations, etc.) average 57 per cent of all deaths at Los Alamos, 71 per cent at Bataan and 25 per cent at Presbyterian. Comparative studies such as these bring us closer to the causes and control of infant mortality and morbidity in each of our own individual hospitals.

Maternal-Infant Mortality Committee

1. Obstetrician
2. Pediatrician
3. Anesthesiologist
4. General Practitioner
5. Pathologist
6. Nursing representative
7. Medical Records Librarian

Figure 12

One of the first programs to be set up in each individual hospital should be the organization of a Maternal-Infant Mortality Committee. Figure 12 lists the members of such a committee: an Obstetrician, Pediatrician, Anesthesiologist, General Practitioner, Pathologist, Nursing Representative, and the Medical Records Librarian.

The functions of this committee should be to meet every three or four months and review all infant deaths; to assign to them the specific causes of death, and whether these were preventable or non-preventable. In the case of the Bataan Memorial Methodist Hospital's Committee the NB-3 sheet on each infant that has died is reviewed and filled out as well as the New Mexico Medical Society's form. These forms are then returned to the Vital Statistics Department in Santa Fe.

In the case of Bataan Memorial Methodist Hospital this Committee also encourages a breakdown of these infant deaths into those dying under the age of one day, during the first week, during the period seven to twenty-eight days, and from twenty-eight days to one year.

Clinico-Pathological Findings in Neonatal Deaths (under one day)
BATAAN MEMORIAL METHODIST HOSPITAL — 1952-1955

Birth Weight (gms.)	Babies na. % total		Apgar Score	Abnormal Pulmonary Ventilation*				Aspiration (vernix)	Intra-cranial Hemorrhage	Congenital Heart**	Other Significant Pathology
				Atelectasis dif-fuse	seg-mental	Hyaline Membrane usual	modified				
under 1000	3	20.0	0-6	1	2	2	—	2	1	—	—
1001-1500	2	13.35	3-5	2	—	1	1	—	1	—	1 - (Interstitial fibrosis, pancreas)
1501-2000	2	13.35	4-6	—	1	1	—	1	—	—	1 - Infection (pneumonia, fetal)
2001-2500	5	33.3	2-5	1	1	2	1	1	1	2	1 - Blood dyscrasia
over 2500	3	20.0	5	—	3	—	—	1	—	2	1 - Cause of death unknown
TOTAL	15			4	7	6	2	5	3	4	4

* 9 infants had abnormal pulmonary ventilation; cause of death in 6 cases, 3 had extensive intracranial hemorrhage.

** 4 infants had congenital heart disease; cause of death in 3 cases. 3 had abnormal pulmonary ventilation, 1 had intracranial hemorrhage.

Figure 13

ty-eight days to one year of age. They similarly try to examine the clinical impression as it compares with the pathological findings, encouraging complete autopsy on all babies of all ages. In figure 13 the findings in 15 infants who died under the age of one day in the period 1952-55 have been thoroughly analyzed with reference to the birth weight group, and the Apgar method of scoring the infant's clinical condition (based on heart rate, respiratory effort, muscle tone, reflex irritability, and color.)¹⁶

Abnormal pulmonary ventilation includes (1) atelectasis, whether that be diffuse or segmental, (2) hyaline membrane syndrome — the usual picture or a modified type of hyaline membrane; and (3) aspiration of caseum vernix. Intra-cranial hemorrhage and congenital heart disease were the other two most important factors; other significant

pathology is listed in the last column. These data show the importance of obtaining permission for a complete autopsy. Although nine infants had abnormal pulmonary ventilation, this was believed to be the primary cause of death in only six cases; the remaining three infants had extensive intra-cranial hemorrhage in addition.

Four infants had congenital heart disease which was the primary cause of death in three cases; three of these infants also had abnormal pulmonary ventilation, and one had intra-cranial hemorrhage. From such tables as this we believe it can readily be demonstrated that no infant dies of prematurity alone, but rather from multiple causes of death. Such analyses stress the importance of obtaining complete autopsies on all infants.

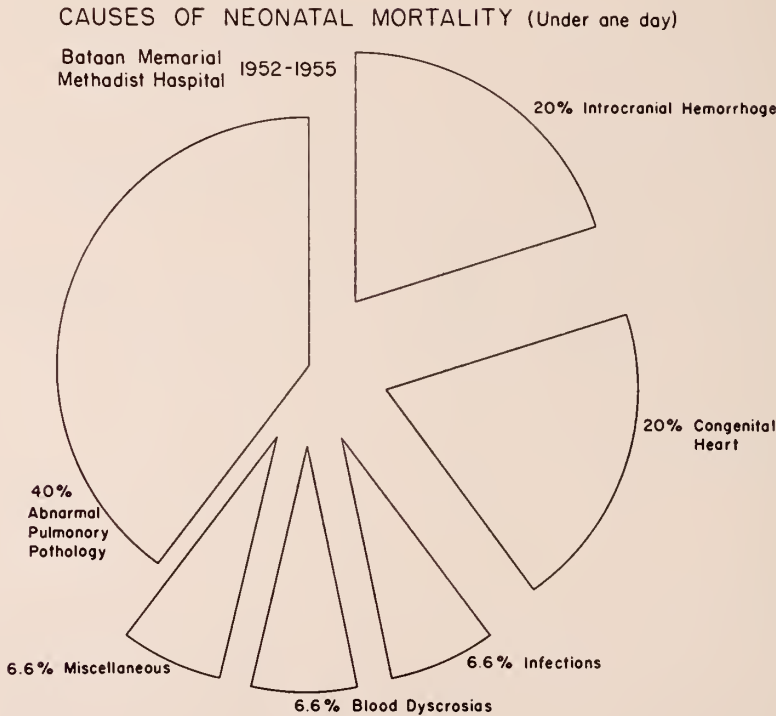


Figure 14

In figure 14, the causes of death have been diagramed accordingly for the years 1952-55. The primary cause of death was believed to be abnormal pulmonary pathology in 40 per cent of all deaths; intra-cranial hemorrhage in 20 per cent, congenital heart disease in 20 per cent,

infections in 6.6 per cent, blood dyscrasia in 6.6 per cent, and miscellaneous causes in another 6.6 per cent. Charts such as this give us an idea of what our most significant problems are and how we should improve them.

Evaluation of Triclobisonium Chloride* in the Treatment of Pyogenic Infections of the Skin

CHARLES S. LINCOLN, JR., M.D.

RAY C. NORDSTROM, M.D.

Berkeley, Calif.

The two organisms most frequently cultured from primary and secondary skin infections are *Streptococcus pyogenes* and *Staphylococcus aureus*, the latter being nearly always present in secondarily infected dermatoses.¹ These are just two of the cutaneous microorganisms implicated in the increasing problem of changing patterns of resistance to antibiotics which has accompanied the widespread use of these drugs.²⁻⁵

Comparisons of the susceptibility of strains of the same bacterial species isolated before and during the course of local antibiotic therapy of pyodermas seems to indicate that more sensitive strains are eliminated and replaced by flora that are more resistant to the antibiotic.⁶ Another problem encountered with antibiotic therapy is the increasing number of hypersensitivity reactions, many of which are manifested as skin eruptions,⁷⁻¹⁰ a situation especially undesirable in treating cutaneous disorders.

The discriminate use of topical medications is therefore imperative; if possible, topical antibiotic therapy should be avoided, and chemotherapeutic agents substituted.⁷

Triclobisonium chloride, a bisquaternary ammonium compound, appears to be a highly effective antibacterial agent in the management of superficial infections in the skin. *In vitro* studies show that the drug has a marked inhibitory effect

on the growth of most of the common organisms cultured from pyogenic infections of the skin.¹¹⁻¹⁴ Clinical results have supported these data,¹⁵⁻¹⁸ and have also shown that it is exceptionally well tolerated producing a minimum of irritation.¹³⁻¹⁴⁻¹⁹⁻²⁰ It was decided therefore to evaluate the bacteriologic and clinical effectiveness, and patient tolerance of triclobisonium chloride in patients with superficial pyodermas.

Materials and Methods

A total of 175 patients ranging in age from infancy to old age was treated with triclobisonium chloride, either plain or in combination with hydrocortisone for a variety of dermatoses; all of them had a pyogenic element—either primary or secondary in nature. The patients were divided into two groups according to the medication used.

Group I (89 patients) received triclobisonium chloride plain for the dermatoses summarized in Table I which included infectious eczematoid dermatitis, infantile eczema, impetigo, folliculitis, acne, furunculosis and others. The patients applied the ointment two to three times daily and duration of treatment varied from a few days to six weeks. During the first half of the study, the patients in this group used triclobisonium chloride ointment in a Carbowax base and during the latter part, the same medication in a vanishing cream type base.

*Triburon® Hoffman-La Roche Inc., Nutley, N. J.

TABLE I
Summary of Results With Triclobisonium Chloride

Diagnosis	No. of Patients	Response			No imp.	No follow-up
		Exc.	Good	Fair		
Infectious eczematoid dermatitis	10	1	8			1
Neurodermatitis	5		4	1		
Infantile eczema	10		5	3	1	1
Nummular eczema	5	1	2	2		
Stasis eczema	2			2		
Impetigo	16	5	10	1		
Folliculitis	5	2	3			
Furunculosis	7	2	4	1		
Carbuncles	2		2			
Acne	4	1	2	1		
Superficial fungus infection	2			2		
Rosacea	3		2	1		
Stasis ulcer	5	1	4			
Postoperative wounds						
Dermabrasion	4		4			
Electrodesiccation	6		6			
Ecthyma	1					1
Dermatitis herpetiformis	1				1	
Pemphigus	1				1	
Totals	89	13	56	14	3	3
		15.1%	65.1%	16.3%	3.5%	

Group II (86 patients) used triclobisonium hydrochloride cream in combination with hydrocortisone for a variety of inflammatory and infected dermatoses including atopic dermatitis, contact dermatitis, seborrheic dermatitis, psoriasis and others. These are summarized in Table II. The cream was applied two to three times daily and duration of treatment varied from one to eight weeks.

Bacteriological and sensitivity studies were performed on 44 patients some of whom are included in this study, whereas others who did not receive triclobisonium chloride are not included in the results of treatment. The following organisms were isolated from the infected areas: *Staph. aureus*, *Staph. albus*, *Pseudomonas aeruginosa*, *E. coli*, alpha-hemolytic streptococcus and others listed in Table III.

The sensitivity studies were done by the "disc" technique. In addition to triclobisonium chloride, 20 antibiotics or other topical chemotherapeutic agents were also tested (Table III).

The patients were usually observed at weekly intervals and the results were valued on the basis of the following criteria: control of infection, pruritus and inflammation, progression of wound

TABLE II
Summary of Results With Triclobisonium Chloride Plus Hydrocortisone

Diagnosis	No. of Patients	Response				No follow-up
		Exc.	Good	Fair	No Imp.	
Contact dermatitis	20	6	12	2		
Atopic dermatitis	5	2	3			
Solar dermatitis	2			1		1
Dermatitis venenata (over-treatment dermatitis)	10	2	7	1		
Pruritus ani and vulvae	3	1	1	1		
Seborrheic dermatitis	16	2	10	2	1	1
Psoriasis	10	1	4	3	1	1
Herpes simplex	1		1			
Herpes zoster	1			1		
Otitis externa	18	8	10			
Totals	86	22	48	11	2	3
		26.5%	57.7%	13.3%	2.4%	

healing and improvement of the underlying disease process. The response was classified according to the degree of improvement as "excellent," "good," "fair," or "no improvement." Patients who did not return were classified as "no follow-up."

Results

Group I: Of 89 patients who used triclobisonium chloride plain, 13 had complete resolution of symptoms. Fifty-six had a good response with almost complete clearing of the symptoms and in 14 patients with partial clearing of symptoms the response was fair. There was no improvement in three patients and no follow-up in three.

The vanishing cream type base proved to be more effective than the ointment preparation. For cosmetic reasons it was preferred by some of the female patients and its use in hairy areas was more acceptable to all patients. Responses with the cream were better than with the ointment when used in intertriginous areas.

Several patients complained of a burning sensation, which was attributed to the ointment base (Carbowax). There were no similar reactions to the cream. This was the only side effect observed throughout the study.

Group II: Twenty-two of the 86 patients who used triclobisonium chloride cream in combina-

TABLE III

Results of Bacteriological and Sensitivity Studies with Triclobisonium Chloride
and Other Topical Antibiotic and Chemotherapeutic Agents

Drug	<i>Ps. aeruginosa</i>	<i>M. pyogenes</i> var. <i>aureus</i> ^e	<i>M. pyogenes</i> var. <i>aureus</i> ^{ee}	<i>M. pyogenes</i> var. <i>aureus</i> ^f	<i>M. pyogenes</i> var. <i>albus</i> ^f	<i>E. coli</i>	γ -hemolytic streptococcus	<i>Str. anhemolyticus</i>	γ -hemolytic streptococcus, <i>M. pyogenes</i> var. <i>aureus</i> ^{ff}	<i>N. catarrhalis</i> , γ -hemolytic streptococcus, β -hemolytic streptococcus	<i>M. pyogenes</i> var. <i>aureus</i> , ^{ff} <i>C. pseudodiphtheriticum</i>	<i>Pseudomonas aeruginosa</i> , <i>E. coli</i> , <i>M. pyogenes</i> var. <i>albus</i>
Aureomycin 10 μ g.	(6)	† (16)	†† (8)	++++ (2)	— (1)	†† (3)	††† (2)	†† (1)	† (2)	†† (1)	— (1)	— (1)
Chloromycetin 10 μ g.	(6)	††† (16)	†††† (8)	†††† (2)	†††† (1)	††† (3)	†††† (2)	†††† (1)	††† (2)	†††† (1)	†††† (1)	— (1)
Erythromycin 10 μ g.	(6)	††† (16)	†††† (8)	†††† (2)	†††† (1)	— (3)	†††† (2)	†††† (1)	††† (2)	†††† (1)	†††† (1)	— (1)
Neomycin 10 μ g.	(6)	†††† (11)	†††† (7)	†††† (2)	—	†† (3)	††† (2)	†††† (1)	†††† (1)	†††† (1)	—	— (1)
Penicillin 1.5 units	(6)	† (16)	† (8)	†† (2)	— (1)	(3)	(2)	†††† (1)	— (2)	— (1)	†††† (1)	— (1)
Penicillin 10 units	(6)	†† (16)	† (8)	†† (2)	— (1)	(3)	(2)	†††† (1)	— (2)	†† (1)	†††† (1)	— (1)
Polymixin B 10 units	(6)	†† (9)	†† (7)	†† (2)	—	(3)	††† (2)	†††† (1)	— (1)	— (1)	—	— (1)
Streptomycin 10 μ g.	† (6)	†† (16)	†† (8)	†† (2)	— (1)	† (3)	— (2)	†††† (1)	††† (2)	— (1)	†††† (1)	— (1)
Terramycin 10 μ g.	(5)	† (16)	† (8)	†††† (2)	— (1)	† (3)	††† (2)	†† (1)	† (2)	†††† (1)	— (1)	— (1)
Tetracycline 10 μ g.	(5)	† (16)	†† (8)	†††† (2)	†† (1)	† (3)	††† (2)	†† (1)	† (2)	†††† (1)	— (1)	— (1)
Gantrisin 1.0 mg.	(5)	† (16)	† (8)	— (2)	†††† (1)	(3)	† (2)	†† (1)	— (2)	— (1)	— (1)	— (1)
Sulfadiazine 1.0 mg.	(5)	† (16)	† (8)	— (2)	†† (1)	(3)	(2)	†† (1)	— (2)	— (1)	— (1)	— (1)
Triple sulfa 1.0 mg.	(5)	† (16)	† (8)	— (2)	†† 1	3	— 2	†† 1	— 2	— 1	— 1	— 1
Triacetyloleandomycin	(3)	†††† (13)	†††† (5)	††† (2)	†††† (1)	— (1)	†††† (1)	†††† (1)	†† (1)	—	†††† (1)	— (1)
Kanamycin	(1)	†††† (1)	—	—	—	—	—	—	—	—	—	—
Nitrofurazone	(1)	—	—	—	—	—	—	—	—	—	—	—
Sulfadimethoxine	(2)	†† (3)	—	—	—	(2)	—	—	— (1)	—	—	—
Bacitracin	(2)	†††† (3)	††† (2)	—	—	(1)	—	—	†††† (1)	—	—	—
Novobiocin	(4)	†††† (15)	†††† (7)	†††† (2)	†††† (1)	— (1)	†††† (2)	†††† (1)	†††† (1)	†††† (1)	†††† (1)	— (1)
Furaltadone	(1)	†††† (4)	†††† (2)	—	—	—	†††† (1)	—	—	—	—	—
Triclobisonium chloride	†††† (6)	†††† (16)	†††† (8)	†††† (2)	†††† (1)	†††† (3)	†††† (2)	†††† (1)	†††† (2)	†††† (1)	†††† (1)	†††† (1)

Code

++++ extremely sensitive

+++ } moderately sensitive

++ }

+ } sensitive

— resistant

() no. of strains tested

*Coagulase-positive, hemolytic.

**Coagulase-negative, hemolytic.

†Coagulase-negative, non-hemolytic.

††Coagulase-negative

tion with hydrocortisone had complete clearing of cutaneous lesions. The response was rated as good in 48 of the patients and fair in 11. Two had no improvement and there was no follow-up in three cases.

Results of the sensitivity studies summarized in Table III, show that none of the organisms were resistant to triclobisonium chloride. One strain of *Pseudomonas aeruginosa* was moderately sensitive to the drug and all other strains were extremely sensitive. *Pseudomonas* organisms were extremely resistant to most of the antibiotics tested, and many strains of staphylococci and streptococci were resistant or moderately sensitive to many of the commonly used antibiotics.

Discussion

From the laboratory and clinical data obtained in this study, it is our conclusion that triclobisonium chloride is as effective in the treatment of superficial dermatoses with an infectious component as local antibiotic preparations. The sensitivity studies indicate that triclobisonium chloride has a much greater activity than the antibiotics or other topical chemotherapeutic agents tested against the usual pathogens in cutaneous lesions. Although the correlation between *in vitro* tests and clinical data is sometimes questionable and not always accurate, the excellent clinical results obtained in this study indicate a rough correlation. In addition, the development of resistant strains to triclobisonium chloride is probably delayed or perhaps even prevented.¹¹ Furthermore, the unusually low incidence of side effects observed with this drug, is an advantage over many of the commonly used antibiotic preparations, and like other chemotherapeutic drugs, its cost is low compared with antibiotics.

Summary

One hundred seventy-five patients with a variety of pyogenic skin disorders were treated with triclobisonium chloride, either plain or in combination with hydrocortisone.

Of the 89 patients who used triclobisonium chloride plain, the response was excellent in 13, good in 56, and fair in 14. There was no improvement in 3 patients and no follow-up in 3.

Eighty-six patients used triclobisonium chloride in combination with hydrocortisone and the response was excellent in 22, good in 48, and fair in 11. Two had no improvement and there was no follow-up in 3.

Bacteriologic and sensitivity studies performed on 44 patients (some of whom are not included in this study) indicated that triclobisonium chloride has a much greater activity than the antibiotics or other topical chemotherapeutic agents tested against the usual pathogens in cutaneous lesions.

Several patients complained of a burning sensation when the ointment was applied. No such complaint was made when the cream was substituted. This was the only adverse reaction observed throughout the study.

2915 Telegraph Avenue

References

1. Sullivan, T. J., and Farber, E. M.: The problem of hand eczema, *Postgrad. Med.* 25: 243, March 1959.
2. Waisbren, B. A., and Strelitzer, C. L.: A five-year study of the antibiotic sensitivities and cross resistances of staphylococci in a general hospital, *Antibiotics Annual 1957-1958*, New York, Medical Encyclopedia, Inc., 1958, p. 350.
3. Seneca, H., and Troc, O.K.: Implications of maximal bacterial resistance to antibiotics, *Postgrad. Med.* 26:457, Oct. 1959.
4. Hare, R.: Antibiotics and the problem of the staphylococcus, *Practitioner* 184:80, Jan. 1960.
5. Livingood, C. S., Greer, J. E., Burns, R. E., and Menard, R. R.: The effect of antibiotic therapy on the emergence of resistant staphylococci in cutaneous bacterial infections, *J. Invest. Dermat.* 32:485, April 1959.
6. Nelson, C. T., and McCarthy, J. T.: Pyodermas and their management, *Med. Clin. North America* 43:869, May 1959.
7. Current Concepts in Therapy. Antibiotics IV. Topical Therapy, *New England J. Med.* 258:947, May 1958.
8. Herrell, W. E.: Hazards of antibiotic therapy, *J.A.M.A.* 168:1875, Dec. 1958.
9. Lawrence, J. C.: The comparative toxicity of antibiotics to skin, *Brit. J. Pharmacol.* 14:168, June 1959.
10. Prasad, A. S.: Severe urticaria following erythromycin therapy, *New England J. Med.* 262:139, Jan. 1960.
11. Schnitzer, R. J., Grunberg, E., DeLorenzo, W. F., and Bagdon, R. E.: Triclobisonium chloride (Triburon), an antimicrobial agent with local activity in living hosts, *Antibiotics & Chemother.* 9:267, May 1959.
12. Grunberg, E., and Schnitzer, R. J.: Experimental approach to topical antibacterial therapy, *Ann. New York Acad. Sc.* 82:114, Sept. 1959.
13. Edelson, E., Grunberg, E., and Morton, T.V.: Clinical appraisal of a new topical quaternary compound, Ro 5-0810/1, *Antibiotics Annual 1958-1959*, New York, Medical Encyclopedia, Inc. 1959, p. 110.
14. Robinson, R. C. V., and Harmon, L. E.: Local application of triclobisonium chloride in the treatment of pyogenic dermatoses, *Antibiotics Annual 1958-1959*, New York, Medical Encyclopedia, Inc. 1959, p. 113.
15. Bluefarb, S. M.: Evaluation of Triburon alone and with hydrocortisone for topical therapy of dermatoses, *Ann. New York Acad. Sc.* 82:119, Sept. 1959.
16. Triclobisonium chloride. Council on Drugs. New and Non-official drugs, *J.A.M.A.* 171:1504, Nov. 1959.
17. Becker, F. T., and Tuura, J. L.: Evaluation of a new topical microbicide in dermatological practice, *Ann. New York Acad. Sc.* 82:131, Sept. 1959.
18. Bielinski, S., Fox, J. M. and Falk, A. B.: The use of triclobisonium chloride (Triburon) in pediatric practice, *Ann. New York Acad. Sc.* 82:141, Sept. 1959.
19. Edelson, E., Grunberg, E., Calabrese, A.D., and Morton, T. V.: Clinical studies of the effectiveness of a new topical antimicrobial, triclobisonium chloride, *Ann. New York Acad. Sc.* 82:124, Sept. 1959.
20. Williams, P. L.: Triburon in dermatological practice, *Ann. New York Acad. Sc.* 82:135, Sept. 1959.

Clinical Pathological Conference

R. E. Thomason General Hospital, El Paso

F. P. BORNSTEIN, M.D., *Editor*,
Presentation of case by DR. E. S. MONGAN

Case No. 1522, February 16, 1961

History: Dr. Nathan Kleban:

A 28-year-old Latin-American woman entered the hospital on Nov. 10, 1960 in the 24th week of her first pregnancy complaining of difficult breathing.

On Feb. 19, 1959 the patient was admitted to this hospital with a three week history of swelling of the face and legs and a sore throat, of four days duration. Temperature was 102, blood pressure 162/90, pulse 112, respirations 24, weight 125 lbs. The face was slightly swollen. Throat was hyperemic. There was 1+ pitting edema of the legs. Blood counts were: 12,800 WBC; 10 eosinophiles, 76 segs., 10 lymphs., 4 monos; hb. 10.5 gms; ht. 32. Although beta-hemolytic streptococci were reported on throat swab culture, anti-streptolysin O titer was only 12 Todd units. Blood urea nitrogen values of 11.7, 18.7, 33.8, 28.8 and 22.8 mg. per cent were reported. Creatinine was 0.6 mg. per cent.

Urine albumin ranged from 2+ to 4+. Hyaline, fine and coarse granular casts were reported. On admission there were 2-5 WBC and occasional RBC per high power field. There was no growth on one urine culture, coliform organisms on a later one. Nine-one million cells were reported on an Addis count, 44 WBC and 47 RBC. Specific gravity ranged from 1.003 to 1.019. Urine was obtained daily by catheterization for analysis.

Serum albumin was 3.6, globulin 1.6 gms. per cent. There were blood sugars of 372 and 88 mg. per cent, with a glucose tolerance test maximum value of 185 at one hour, and 160 and 133

mg. per cent at two and three hours. When repeated the 30 minute value was 278, one hour 284, two hours 165, and three hours 108 mg. per cent. Other blood chemistries were within normal range.

Chest X-ray and electrocardiogram were normal.

A low salt diet, procaine penicillin and chlorothiazide were prescribed, with diuresis weight decreased from 125 to 111 lbs. Temperature was below 100 after the second day, 99 or lower after the 14th day. Blood pressure ranged from 162/100 to 96/70. Sulfamethoxypyridazine (Kynex), nitrofurantoin (Furadantin) and prednisone were prescribed later during the hospital course. Physical findings were not recorded on March 27, 1959 when the patient was discharged.

She was not seen again until her second and final admission on Nov. 10, 1960 when she was able to relate only that she had suffered breathlessness, backache, and swelling of the legs for six days.

Before 1959 the patient had been in good health. She had experienced no similar illness, had no antecedent sore throat, had no known previous kidney trouble or elevation of blood pressure.

Father and mother were dead. The father had high blood pressure and both parents had heart trouble.

Physical Examination:

Breathing was labored in the sitting position. There was striking pallor. Blood pressure of 220/120 dropped to 187/78 after parenteral reserpine 5 mg. and phenobarbital. Edema of the legs was 2+. Crepitant rales were heard over both lung fields. Heart rate was 140, rhythm regular. There were no murmurs heard. The fundus of the uterus was slightly above the umbilicus. Neck veins were engorged. Respirations 24. Temperature 100.

Hospital Course:

In addition to reserpine and phenobarbital, medication consisted of rectal aminophylline, oxygen, digitalis, oxytetracycline (Terramycin), Chlorothiazide, and packed RBC from three units of whole blood over a five day period, which raised the hematocrit from 16 to 30 and the hemoglobin from 5.3 to 3.8. An obstetric consultant advised attempting to carry the patient to 36 weeks, then to do vaginal delivery.

During and after the first packed red blood cell transfusion the patient complained of right chest and left shoulder pain for which she was given sublingual nitroglycerin with unrecorded effect.

By the following day breathing was comfortable. Blood pressure dropped to 160/80. Except for the initial elevation, there was no fever during the first week. Blood pressures varied between 220/160 systolic and 110/56 diastolic. The patient felt better, was able to walk to the bathroom, began to eat well, and was comfortable. Twenty-four hour urine output varied between 825 c.c. and 1350 c.c. On Nov. 15 urine voided was 1025 c.c.

Intermittent cramping abdominal pain with three yellow liquid stools marked a reversal in the patient's improving course on the night of Nov. 15.

Termination of the pregnancy was decided upon on Nov. 16. Pitocin was started by I-V drip at 4 p.m. Membranes were ruptured at 7 p.m. A dead male infant was delivered vaginally at 9:30 p.m. Blood pressure was 170/90 at 10 p.m. From 7 a.m. to 3 p.m. urine output of 200 c.c. was recorded. Except for a few drops there was no additional output that day.

On November 17 the patient's condition was described as "extremely poor." She was restless, confused, uncooperative. Respirations became slow and irregular, blood pressure dropped to 128/50. Levarterenol (Levophed) was started I.V.

Peritoneal dialysis with Abbott's Impersol was started that afternoon and continued for 48 hours, until the patient died. The volume in was 28,000 c.c.; the volume out 28,475 c.c. Fifty mg. Heparin was added to a solution twice and 1.0 gm. tetracycline four times. A total of one liter of 10 per cent glucose/D.W. was given I.V. over a 48 hour period. Thirty units of insulin was added on two occasions, chlorothiazide and aminophylline on one, and levarterenol on the last day when severe hypotension developed. At this time the patient received 1000 c.c. of 5 per cent glucose/D.W.

Urine output on Nov. 17 was 180 c.c., on Nov. 18, 500 c.c., and on Nov. 19, 25 c.c.

On Nov. 18 the patient seemed clinically improved, was conscious and able to talk, but only for a short time. Despite a lowering of blood urea nitrogen from 124 to 71 mg. per cent and of potassium from 8.1 to 4.3 mEq/L, blood pressure dropped to zero, and breathing stopped eight hours later on Nov. 19.

Electrocardiogram, Nov. 10, 1960 showed sinus tachycardia. P-wave in Lead II notched. Atrial damage.

X-rays: Chest—11-10-60—Conclusion: Findings consistent with cardiomegaly with accompanying congestive failure. Findings consistent with bilateral pneumonitis.

Chest and flat of abdomen—11-15-60—Re-examination of the chest and comparison with films taken 11-10-60 reveals marked improvement of the previously observed changes consistent with pulmonary edema and accompanying pneumonitis. There is no significant increase in the size of the cardiac silhouette. Conclusion: Marked improvement.

Survey film of the abdomen reveals a single, approximately five or six months fetus presenting cephalically. The pelvis is gynecoid in type. The fetal parts appear natural. There is no evidence of hydramnios. Conclusion: Single, approximately five to six months fetus.

Clinical Discussion: Dr. E. S. Mongan

In a complicated case I like to pick out one finding that seems to be both pertinent and definitely proven and do a differential diagnosis on it. In this particular patient the finding that I have chosen is the proteinuria, since in the 40 urinalyses that this patient had during her three hospitalizations here, protein was found in every specimen. Normal individuals pass anywhere from 40 to 100 mg. of protein in their urine every 24 hours. This level is below that picked up on our routine urinalyses, however.

Although we customarily refer to it as albuminuria, it has recently been shown that most of the protein is actually a gamma globulin differing from the serum gamma globulin in that the molecular weight is from 23,000 to 38,000 instead of 160,000. Since this patient had large amounts of proteinuria found on many occasions, I think it is safe to assume that her proteinuria was pathological.

Trace Amounts

There are transient causes of proteinuria such as in almost any severe infection, in congestive heart failure, acute rheumatic fever, etc., but these are usually only in trace amounts. Again the large amount of protein regularly found in this patient's urine rules out these causes. There is one other condition I want to mention in passing because I would rather not talk about it in detail. This is toxemia of pregnancy. My feeling is that it is very clear-cut in the protocol that the patient had renal disease prior to her pregnancy. In the presence of pre-existing renal disease I find it very difficult to comment intelligently on toxemia, since the same symptoms may occur due to the underlying kidney disease.

Orthostatic proteinuria is a physiological condition in which the protein appears in the urine in the erect lordotic position. This occurs chiefly in patients under age 30 and can certainly give markedly positive tests for proteinuria. The condition is much more frequent in males than in females, however, and as far as is known, is a benign one.

In one series, boys between the ages of 14 and 16 were demonstrated to have 75 per cent orthostatic proteinuria when positioned in certain ways.

In men 15 years older similar positioning gave only 35 per cent proteinuria. In view of the fatal outcome of this case, I feel this condition can be ruled out.

Another rare condition which can cause proteinuria, edema, red and white cells and casts in the urine, is amyloidosis. However, this is usually secondary amyloidosis because the primary form of the disease does not involve the viscera. Since secondary amyloidosis is commonly found only complicating such diseases as tuberculosis, osteomyelitis, ulcerative colitis and rheumatoid arthritis, and since the patient had no evidence of any of these processes, I feel this possibility is remote.

Rare Cause

Another rare cause of proteinuria is poisoning. The most common ones seen in this country are due to carbon tetrachloride or mercury. Carbon tetrachloride poisoning can give proteinuria, hypertension and cells and casts in the urine. This patient, however, had no history of exposure to carbon tetrachloride and since acute exposure leads to gastro-intestinal symptoms, I think we can be sure this was not present.

In sub-acute or chronic exposure there is usually liver as well as kidney damage and in the absence of this I think we can rule out this entity. Mercury poisoning may also give proteinuria and cells and casts in the urine. Late in the course of the disease hypertension and renal shut-down frequently occur. This can occur either in acute intoxication, usually a suicide attempt, or in chronic exposure. Here again the absence of a history of exposure and the lack of a stomatitis to suggest acute poisoning or dermatitis to suggest chronic mercury poisoning, make this possibility unlikely.

Sub-acute bacterial endocarditis can give proteinuria and microscopic hematuria anemia and emboli to the kidneys can lead to irreversible kidney damage. On the other hand, even if the kidney is involved in sub-acute bacterial endocarditis there is rarely hypertension or casts in the urine. In this particular patient, moreover, since there is no evidence of any rheumatic or congenital cardiac lesions, there is no primary site for her endocarditis to start.

Fanconi syndrome is another rare cause of proteinuria. It is a variable complex of multiple defects in renal tubular function, characterized by generalized aminoaciduria, renal glycosuria and renal hypophosphatemia. The Fanconi syndrome can be congenital or acquired secondary to Wilson's disease, multiple myeloma, heavy metal poisoning, etc. No attempt was made to test this patient's urine for amino acids and a serum phosphorous was never determined. A high serum phosphorous would probably rule out this condition.

Since the patient was 28 years old we would have to postulate that she had the acquired type of Fanconi syndrome because it would be unlikely for her to live this long with the congenital type. There is no evidence for any of the illnesses mentioned above which usually cause the acquired type. Moreover, despite the massive proteinuria, this patient never had glycosuria.

Nephrotic Syndrome

The nephrotic syndrome is not actually a disease entity but it certainly can cause massive edema and massive proteinuria. It is usually also associated with a hyperlipemia, and hypoalbuminemia. In this patient the edema, proteinuria, hypertension and the presence of cells and casts in the urine are all compatible with this syndrome. However, there was none of the underlying diseases, such as lupus, syphilis, amyloidosis, etc. which usually cause a nephrotic syndrome, and her serum cholesterol of 105 mg. per cent is low instead of being elevated. Moreover, the serum albumin of 3.6 gms. per cent is slightly low but much higher than usually found in this syndrome.

Tuberculosis of the kidney can cause proteinuria, hematuria, pyuria and can certainly occur without overt evidence of pulmonary tuberculosis. This disease, however, is at least two to four times more common in males than in females, does not usually cause hypertension, and does not usually lead to death by uremia. For these reasons I think it is an unlikely possibility here.

Multiple myeloma causes proteinuria and anemia and hypertension, and certainly these patients can die in uremia. All of these things would be compatible with this patient's course. The disease is usually found in older people, however, is more common in males than females in my experience,

and is usually associated with bone pain. The serum globulin is almost invariably increased since the myeloma protein usually occurs in the gamma globulin fraction.

This patient's urine was never tested for Bence-Jones protein but only 50 per cent of patients with proven multiple myeloma have this finding. It is of interest that recently, with electrophoretic studies, Bence-Jones protein can almost invariably be demonstrated in the urine of these patients. With the low serum globulin level in this patient, I think the diagnosis is quite unlikely.

More Common in Males

Polyarteritis can cause proteinuria, hematuria, uremia and anemia and hypertension. The patient, moreover, is in the right age group, i.e., the 20 to 50 year old group, and this disease can present with renal lesions. Moreover, it is the only disease I can think of which would explain the eosinophilia noted on her first hospitalization.

Factors against this diagnosis are that the disease is three times more common in males than in females, and that casts are not usually found in the urine. Moreover, since it is a multiple system disease one would expect evidence of skin lesions, neuritis, arthritis, etc., before accepting the diagnosis. Since we have no need to postulate much disease in this patient except in her kidneys, I feel that a diagnosis of polyarteritis is not tenable.

Disseminated lupus erythematosus can give proteinuria, hematuria, pyuria and casts in the urine. It can also start with predominantly kidney symptoms and the patient can die in uremia. Moreover, the patient is certainly the right age and sex for this entity. Things against this diagnosis are that it is unusual for it to be present with a low serum globulin and usually is associated with a leucopenia. Although no LE preps were done it, too, is a multiple system disease and since only kidney involvement is certain in this patient I feel the diagnosis can not be made.

Patients with polycystic kidneys can have all the urinary findings found in this patient and often die in uremia. The fact that the patient was

28 years old does not rule out this condition. There is, however, no family history of renal disease, no evidence of renal enlargement on the abdominal flat plate, and no abdominal masses were ever felt.

Arteriolonephrosclerosis is certainly a common disease in which patients can have proteinuria, hypertension and die in uremia. However, in this condition hematuria and casts are not commonly found. Moreover, there is no antecedent history of hypertension, something which is almost invariably present in arteriolonephrosclerosis. In this case I would postulate that the hypertension was secondary to renal disease and not the cause of it.

Toxemia of Pregnancy

I should like to mention in passing bilateral renal cortical necrosis, which is often associated with toxemia of pregnancy and necrotizing papillitis which is often associated with diabetes mellitus. I feel that both of these are pathological rather than clinical diagnoses and as such I feel I cannot completely rule them out in this case.

The question arises whether this patient had diabetes mellitus or not. One blood sugar was 372 mg. per cent and she had two diabetic type glucose tolerance curves. However, the patient never had clinical symptoms of diabetes and the blood sugar of 372 mg. per cent was followed in a few hours by one of 88 mg. per cent without any intervening medication. The possibility of a laboratory error must seriously be considered. Moreover, the patient never had glycosuria, despite the reported blood sugars.

Since the glucose tolerance curves may give diabetic type curves with laboratory errors under nutrition or a low carbohydrate intake prior to the time of the tests, and since this patient certainly was not eating well when the tests were done, I do not feel they are valid. In short, I am unable to make a diagnosis of diabetes mellitus on the basis of information we are given here in the protocol.

Kimmelstiel-Wilson disease can give proteinuria, edema, hypertension and can certainly be fatal. Since the possibility of diabetes has not been ruled out, this entity must be considered. It usually occurs in patients who have had diabetes for at least five years, however, and most frequently is

a late complication associated with retinopathy and uropathy. On occasion it is associated with a nephrotic syndrome and with a low serum albumin. Since none of these things were present in this patient, I feel the diagnosis is unlikely.

Chronic pyelonephritis is probably the commonest renal disease leading to uremia. The patient had repeated catheterizations on her first admission, which might have predisposed her to this disease. The presence of proteinuria and cells in the urine and the possibility of diabetes mellitus are certainly all compatible.

Against this diagnosis are the facts that only 50 per cent of patients develop hypertension, and that she had renal disease on admission the first time without any prior history of infection. It is unlikely that this disease would cause casts in the urine. Moreover, there is no known evidence of urinary obstruction, which would predispose to this condition. I feel that while it is quite clear that the patient had a mild infection on her first admission, I doubt that this was the primary event.

Sore Throat

Acute glomerulonephritis usually occurs in the setting of a streptococcal sore throat. Unlike acute rheumatic fever which may follow any anti-hemolytic strep infection, glomerulonephritis usually follows infections with types 12, 18, 4 and 25. The urinary findings in this patient are quite compatible with this diagnosis on first admission and she could have gone on to develop chronic pyelonephritis subsequently. Since this is a disease of young people, she is in the right age group for it.

The timing of the streptococcal infection, however, is not quite right. This patient developed edema two and a half weeks prior to the onset of her strep throat instead of ten to 14 days after it. Moreover, the ASO titer was low, an unusual finding in acute glomerulonephritis. On her first admission her hemoglobin was only 10.5 gm. percent, a distinctively unusual finding early in the course of acute glomerulonephritis. For these reasons I do not feel that her first admission was due to this illness.

Chronic glomerulonephritis can give proteinuria, hypertension and anemia and the other urinary findings found in this patient. Moreover,

it is commonly complicated by congestive heart failure, pneumonia and uremia. In our patient we would postulate that her first episode could have been an exacerbation of a chronic process.

Since this usually comes three to four days after an infection rather than two weeks after one, the ASO titer is often not elevated. The patient's subsequent course and the fact that her renal disease became much worse during pregnancy, is typical of this entity. I am unable to find anything in the protocol that could not fit with this diagnosis, although I realize that this does not therefore prove that it is the correct one.

I would just like to make a few comments about therapy in this case. This patient was given diuretics on her first admission, a step which in my opinion should be done with extreme caution. I feel they should not be used at all in acute glomerulonephritis and are rarely indicated in chronic glomerulonephritis.

I would agree that the best way to treat the anemia in uremia is with blood transfusions as was done here; although there is a mild hemolytic component in this type of anemia, the red cell survival time usually decreases to 70 to 80 days. The chief cause of the anemia appears to be bone marrow depression and therefore transfusions, rather than iron or B-12 therapy, are much more efficacious.

Worthwhile Procedure

The consultant who first saw this patient on her second admission felt that an obstructive uropathy should be ruled out. While this patient was so ill that it was never possible to do this, I would certainly agree that it is a worthwhile procedure. As in any severe illness, one would not want to overlook a treatable condition.

The protocol states that the patient was catheterized daily on her first admission to obtain urine for analyses. I find this hard to justify in view of the fact that this almost invariably causes urinary tract infection.

Peritoneal dialysis was carried out on this patient shortly before her death. I view this procedure as only a temporary measure to be used in a reversible situation or conceivably an attempt to save a fetus. It is difficult to criticize its use in this particular patient, although one could surmise that it would probably be futile.

In summary, I feel that this patient had chronic glomerulonephritis with a flare-up leading to her first admission here. She subsequently became pregnant and in the second trimester developed more kidney findings, and the complications of anemia, congestive failure, hypertension, pneumonia, uremia and death. I doubt that she had diabetes mellitus but feel that it and chronic pyelonephritis, renal cortical necrosis and necrotizing papillitis cannot be ruled out clinically.

Clinical Impression: Acute renal failure and pregnancy.

Dr. Mongan's Diagnosis: Chronic glomerulonephritis.

Pathological Diagnoses: 1. Acute and chronic glomerulonephritis. 2. Broncho-pneumonia, bilateral. 3. Adrenal hemorrhages. 4. Post-partum status.

Pathological Discussion: Dr. F. P. Bornstein:

On autopsy we found a young woman measuring approximately 165 cm. in length and weighing approximately 60 kg. The heart was enlarged, weighing 400 grams, suggesting that there was hypertension at one time, probably due to longstanding kidney disease. There was an extremely

Figure 1

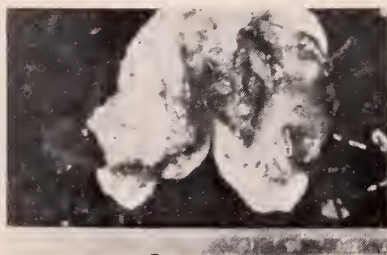


Figure 2

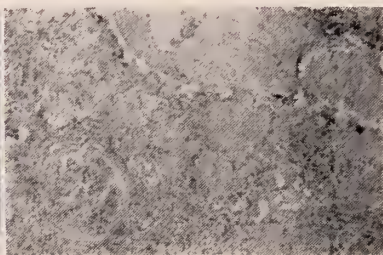
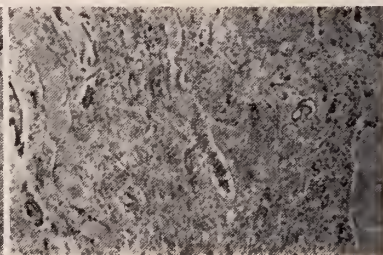


Figure 3



severe chronic bronchopneumonia. There further was, surprisingly enough, a bilateral adrenal hemorrhage. I cannot explain the etiology. However, many of the shock-like symptoms of this patient might be explained by this additional complicating adrenal factor.

The main interest naturally centers on the kidneys. They weigh together 230 grams. They were of moderately firm consistency and had a slightly granular surface, with tiny yellow markings running between the elevated granular lesions. The same yellow streaks were noted in the renal cortex.

Microscopic examination revealed a classical

pattern of sub-acute nephritis with so-called inflammatory crescents and an additional acute inflammatory lesion. It is obvious then that the sudden death of this patient and the kidney lesions have nothing to do with the so-called toxemia of pregnancy.

The patient had, as is indicated by the histological findings in the kidney as well as by the hypertrophy of the heart, a kidney lesion of long standing. As is very common, an acute flare-up occurred during her pregnancy which finally threw her into renal failure. Additional complicating factors are bronchopneumonia and adrenal hemorrhage.

Cancer Conference to be Held in Denver

The 15th annual Rocky Mountain Cancer Conference will be held at Denver's Brown Palace West, July 12, 13, and will feature panel discussions on "Detect Cancer in Time! Procedures, Problems and Solutions," and "Neoplasms of the Female Genital Tract."

Presidents of both the American Cancer Society and the American Medical Association will participate in the two day program. Application has been made for A.A.G.P. accreditation for the Conference.

Speakers on the Scientific program will include:

Ulrich R. Bryner, M.D. of Salt Lake City; Vincent P. Collins, M.D. of Houston; William Dock, M.D. of Brooklyn; Manuel E. Lichtenstein, M.D. of Chicago; John R. McDonald, M.D. of Detroit; and John A. Wall, M.D. of Houston.

Morning sessions on both days of the program will be devoted to the panel discussions followed by round table luncheons with speakers. Individual papers will be delivered in the afternoon sessions.

The Conference is co-sponsored by the Colorado Division of the American Cancer Society and the Colorado State Medical Society.

STAFF PHYSICIAN

Accredited 249 bed hospital, thoracic diseases, pediatrics, general medicine, rehabilitation chronic disease.

Rural area, Sierra Nevada foothills. Starting salary \$725-\$766. Modern furnished house for family included.

TULARE-KINGS COUNTIES HOSPITAL

Springville

California



Southwestern Physicians' Directory



SAUL B. APPEL, M.D.

Certified by the American Board of Internal Medicine

CARDIOVASCULAR DISEASES

Suite 10E
KE 3-5201 EL PASO MEDICAL CENTER 1501 Arizona Ave.
El Paso, Texas

ARTESIA MEDICAL CENTER

Phone:

Henry L. Wall, M.D., Suite A SH 6-2311
General Practice
Robert W. Harper, M.D., Suite B SH 6-2531
Surgery and Gynecology
Owen C. Taylor, Jr., M.D., Suite C SH 6-2521
General Practice
C. Pardue Bunch, M.D., Suite D SH 6-3321
General Practice
Gerald A. Slusser, M. D., Suite E SH 6-2441
Surgery
X-ray and Medical Laboratory SH 6-4200
Fourth and Washington Artesia, New Mexico

ANDREW M. BABEY, M. D.

Certified by the American Board of Internal Medicine

CARDIOVASCULAR DISEASES

250 West Court Avenue JACkson 4-4481 Las Cruces, N. M.

**FRANK O. BARRETT
ANESTHESIOLOGY ASSOCIATES**

J. A. Shugart, M.D.

(Diplomate American Board of Anesthesiology)

Jack Walker, M.D., J. W. Redelfs, M.D., Jack Ellis, M.D.

B. F. Fehlman, M. D., C. G. Race, M.D.

— ANESTHESIOLOGY —

El Paso Medical Center KE 3-8431 1501 Arizona Ave.
El Paso, Texas

OTTO L. BENDHEIM, M. D.

DIPLOMATE AMERICAN BOARD OF PSYCHIATRY &
NEUROLOGY

5051 N. 34th Street CRestwood 7-7431 Phoenix, Arizona

RAYMOND J. BENNETT, M. D.

Diplomate of the American Board of Neurology and Psychiatry

PRACTICE LIMITED TO NEUROPSYCHIATRY

Suite 7A El Paso Medical Center 1501 Arizona Avenue
Phone KE 2-1177 El Paso, Texas

JACK A. BERNARD, M.D., F.A.C.P.

Diplomate American Board Internal Medicine

INTERNAL MEDICINE

CARDIOVASCULAR DISEASES

Suite 3C El Paso Medical Center 1501 Arizona Avenue
Phone KE 3-8151 El Paso, Texas

VICTOR M. BLANCO, M.D.

Diplomate of the American Board of Surgery

GENERAL AND CANCER SURGERY

205 University Towers Building
1900 N. Oregon St. KE 3-5519 El Paso, Texas

**CLEMENT C. BOEHLER, M. D., F.A.C.S.
H. W. DEMAREST, M.D., F.A.C.S.**

Diplomates American Board Obstetrics and Gynecology

Suite B-A Medical Center 1501 Arizona Avenue
Phone KE 2-6591 El Paso, Texas

FREDERICK P. BORNSTEIN, M.D.

Certified by the American Board of Pathology
in Pathologic Anatomy and Forensic Pathology

102 University Towers Bldg.
1900 N. Oregon St. KE 2-3901 El Paso, Texas

LOUIS W. BRECK, M.D.

W. COMPERE BASOM, M.D.

MORTON H. LEONARD, M.D.

MARIO PALAFOX, M.D.

ZIGMUND W. KOSICKI, M.D.

ADRIAN L. GRASS, M.D.

The El Paso Orthopaedic Surgery Group

1220 N. Stanton St. Telephone KE 3-7465 El Paso, Texas

BASIL K. BYRNE, M.D., F.A.A.P.

IRVIN J. GOLDFARB, M.D., F.A.A.P.

Diplomates American Board of Pediatrics
PEDIATRICS

Suite 4A El Paso Medical Center 1501 Arizona Avenue
KE 3-8487 El Paso, Texas

ROBERT J. CARDWELL, M.D.

(Diplomate American Board of Obstetrics and Gynecology)

608 University Towers Building

1900 N. Oregon St. KE 3-7587 El Paso, Texas

ROBERT N. CAYLOR, M.D.

Practice Limited to Ophthalmology

508 University Towers Building
1900 N. Oregon St. KE 3-4909 El Paso, Texas



Southwestern Physicians' Directory



WILLIAM I. COLDWELL, M.D.

Certified by the American Board of Internal Medicine

INTERNAL MEDICINE

501 University Towers Building

1900 N. Oregon St. KE 2-2661 El Paso, Texas

BRANCH CRAIGE, M.D., F.A.C.P.

(Certified by American Board of Internal Medicine)

INTERNAL MEDICINE

Suite 58 El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-7121 El Paso, Texas

E. S. CROSSETT, M.D.

Diplomate American Board of Thoracic Surgery

GEORGE W. IWEN, M.D.
THORACIC SURGERY

Cardiovascular Surgery Broncho-Esophagology
Suite 11-D KE 3-8511 or KE 2-2474 1501 Arizona Ave.
El Paso Medical Center El Paso, Texas

WICKLIFFE R. CURTIS, M. D., F.A.C.S.

JAMES D. BOZZELL, M.D., F.A.C.S.

Diplomates American Board of Urology

PRACTICE LIMITED TO UROLOGY

Suite 3B El Paso Medical Center 1501 Arizona Avenue
Phone KE 3-1426 El Paso, Texas

RITA L. DON, M.D.

Allergy

102 University Towers Building

1900 N. Oregon St. KE 2-3901 El Paso, Texas

ANTONIO DOW, M.D., F.A.C.S.

(Diplomate of American Board of Surgery)

GENERAL SURGERY

205 University Towers Building

1900 N. Oregon St. KE 2-7305 El Paso, Texas

HAROLD D. DOW, M.D.

FREDERICK J. KOBERG, M.D.

General Practice — Surgery

Box 456
702 Hobbs Road Phone 3641 Seminole, Texas

JOHN A. EISENBEISS, M.D., F.A.C.S.

WILLIAM B. HELME, M.D.

Diplomates of the American Board of Neurological Surgery

NEUROSURGERY

926 E. McDowell Road AL 4-3151 Phoenix, Arizona

WARD EVANS, M.D., F.A.C.S.

(Diplomate American Board of Surgery)

SURGERY

608 University Towers Building

1900 N. Oregon St. KE 3-7587 El Paso, Texas

LESTER C. FEENER, M.D., F.A.C.P.

Diplomate American Board of Internal Medicine

INTERNAL MEDICINE

CARDIOVASCULAR DISEASES

404 Banner Bldg. KE 2-5771 El Paso, Texas

2021 N. Central Ave. AL 3-4131

DOUGLAS D. GAIN, M.D.

JOHN W. KENNEDY, M.D.

JAMES R. MATHESON, M.D.

FRANK TOLONE, M.D.

Diplomates of American Board of Radiology
X-RAY THERAPY and DIAGNOSIS
RADIUM THERAPY

Phoenix Arizona

ALBERT A. GEMOETS, M.D.

Member American Academy of General Practice

GENERAL PRACTICE

3726 1/2 Alameda Ave. KE 3-7689 El Paso, Texas

H. M. GIBSON, M.D., F.A.C.S.

Certified by American Board of Urology

PRACTICE LIMITED TO UROLOGY

512 University Towers Building

1900 N. Oregon St. KE 2-8130 El Paso, Texas

L. A. GLADSTONE, M.D.

W. D. FEINBERG, M.D.

INTERNAL MEDICINE

Bldg. 14, Suite D 1501 Arizona Ave.
El Paso Medical Center KE 3-2508 El Paso, Texas

JAMES J. GORMAN, M.D., F.A.C.P.

Diplomate American Board of Internal Medicine

DIAGNOSIS — GASTROENTEROLOGY

701 First National Building KE 2-6221 El Paso, Texas

J. LEIGHTON GREEN, M.D., F.A.C.S.

GENERAL and GYNECOLOGICAL SURGERY

Suite 3A El Paso Medical Center 1501 Arizona Avenue
Phone KE 2-9790 El Paso, Texas



Southwestern Physicians' Directory



DRS. HART, BOVERIE, BLACK,
CLAYTON, GREEN & WHITE

PATHOLOGICAL AND CLINICAL LABORATORIES
X-RAY DIAGNOSIS AND THERAPY

Radioactive
Isotopes

Cobalt
Beam Therapy

Pathology

M. S. HART, M.D.

C. L. GREEN, M.D.

Diplomates American Board of Pathology

R. F. BOVERIE, M.D.

G. L. BLACK, M.D.

R. S. CLAYTON, M.D.

J. E. WHITE, M.D.

Diplomates American Board of Radiology

MELVIN A. LYONS, M.S.H.A.

Business Manager

El Paso Medical Center
1501 Arizona Ave., Suite 2A
KE 3-4478

Medical Arts Building
415 E. Yandell Drive, Suite 105
KE 3-6926

EL PASO, TEXAS

SOL HEINEMANN, M.D., F.A.C.S.

Diplomate, American Board of Urology

UROLOGY

212 University Towers Bldg.

1900 N. Oregon St.

LI 2-1539

El Paso, Texas

SOLOMON HELLER, M.D.

INTERNAL MEDICINE

Hematology—Endocrinology

505 University Towers Building

1900 N. Oregon St.

KE 3-0406

El Paso, Texas

HERBERT E. HIPPS, M.D.

ORTHOPEDIC SURGERY

1612 Columbus Ave.

4-4701

Waco, Texas

RUSSELL HOLT, M.D.

B. LYNN GOODLOE, M.D.

GENERAL and GYNECOLOGICAL SURGERY

MEDICAL ARTS BUILDING

415 East Yandell Blvd.

KE 3-3443

El Paso, Texas

RALPH H. HOMAN, M.D., F.A.C.P.

CARDIOLOGY

ROBERT B. HOMAN, JR., M.D., F.A.C.S.

DISEASES OF THE CHEST — THORACIC SURGERY

Suite 7D El Paso Medical Center
Phone KE 3-1409

1501 Arizona Avenue
El Paso, Texas

GEORGE W. HORTON, M.D.

PRACTICE LIMITED TO ORTHOPEDICS

513 West 4th Street

Federal 2-1271

Odessa, Texas

LOUIS G. JEKEL, M.D.

ROBERT H. SNAPP, M.D.

Diplomates American Board of Dermatology

DERMATOLOGY

550 W. Thomas Rd.

CR 4-4901

Phoenix, Ariz

W. A. JONES, M.D.

Diplomate American Board of Neurological Surgery

K. ZOLFOGHARY, M.D.,

NEUROLOGICAL SURGERY

Suite 1C El Paso Medical Center
KE 2-7579, KE 3-9076

1501 Arizona Avenue
El Paso, Texas

G. H. Jordan, M.D., F.A.C.S.

C. E. Webb, M.D., F.A.C.S.

DRS. JORDAN AND WEBB

Diplomates American Board of Surgery

GENERAL and GYNECOLOGICAL SURGERY

Suite 7B

El Paso Medical Center

Phone KE 2-1693

1501 Arizona Ave.

El Paso, Texas

LINDELL M. KINMAN, M.D.

Diplomate American Board of Urology

UROLOGY

300 West Alameda

Phone MA 2-4111

Roswell, N. Mex.

M. NATHAN KLEBAN, M.D.

Certified by American Board of Internal Medicine

Internal Medicine

610 University Towers Building

1900 N. Oregon St.

KE 2-7079

El Paso, Texas

J. T. KRUEGER, JR., M.D.

THORACIC and CARDIOVASCULAR SURGERY

PO 3-8281

1910 Knoxville

Ext 250

Lubbock, Texas

GILBERT LANDIS, M.D., F.A.C.S.

Diplomate American Board of Obstetrics & Gynecology

**OBSTETRICS, GYNECOLOGY
and GYNECOLOGICAL SURGERY**

Suite 15-D

KE 3-5023

El Paso Medical Center

1501 Arizona Ave.

El Paso, Texas



Southwestern Physicians' Directory



ROYCE C. LEWIS, JR., M.D.

Diplomate American Board of Orthopedic Surgery

ORTHOPEDIC SURGERY and SURGERY OF THE HAND

1910 Knoxville St. PO 3-8281 Lubbock, Texas

A. L. LINDBERG, M.D.

JOHN W. VOSSKUHLE, M.D.

Neoplastic Diseases

TUCSON TUMOR CLINIC

721 N. 4th Ave. MA 3-2531 Tucson, Arizona

CHARLES P. C. LOGSDON, M.D.

CARDIOLOGY

415 E. Yandell Blvd. KE 3-7916 El Paso, Texas

TRUETT L. MADDOX, D.D.S.

ORAL SURGERY

Suite 9A El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-3659 El Paso, Texas

WALTER B. MANTOOTH, JR., M.D.

Dermatology and Cancer of the Skin

Suite 101 Lubbock
3801 19th Street SWiff 9-4359 Texas

GEORGE B. MARKLE, IV, M.D.

Diplomate of the American Board of Surgery

GENERAL and GYNECOLOGICAL SURGERY

911 North Canal TU 5-5240 Carlsbad, New Mexico

MARSHALL CLINIC

I. J. Marshall, M.D.

General Surgery and Diagnosis

U. S. Marshall, M.D.

General Surgery and General Practice

E. A. Latimer, M.D.

General Practice

C. H. Fowler, M.D.

Internal Medicine and Cardiology

Thomas J. Jones, M.D.

Diseases of the Skin and Allergies

H. D. Johnson, Jr., D.D.S.

ROSWELL

NEW MEXICO

HOWARD J. H. MARSHALL, M.D.

Member American Academy of General Practice

GENERAL PRACTICE

Suite BE 1501 Arizona Avenue
El Paso Medical Center KE 2-2431 El Paso, Texas

MEDICAL CENTER HOSPITAL AND CLINIC

Eugene McCarthy, M.D., FACS, FICS

Diplomate American Board of Obstetrics & Gynecology

Jeff H. Davis, M.D., AAGP; Joe J. Horn, M.D., AAGP

Howard Handcock, M.D., DABR

A. B. Cairns, M.D., FACCP; W. Ralph Thomas, M.D.

220 St. Louis St. CA 4-7426 Plainview, Texas

A. WILLIAM MULTHAUF, M.D., F.A.C.S.

UROLOGICAL DIAGNOSIS AND SURGERY

1315 First National Bldg. KE 3-8986 El Paso, Texas

E. K. NEIDICH, M.D., D.A.B.R.

RADIOLOGY

Memorial General Hospital Jackson 6-2411 Las Cruces, N. M.

WALLACE E. NISSEN, M.D., F.A.C.S.

W. W. KRIDELBAUGH, M.D., F.A.C.S.

GENERAL SURGERY

Medical Arts Square
801 Encino Place, Suite 35 3-2251 Albuquerque, N. M.

F. KEITH OEHLISCHLAGER, M.D.

WILLIAM M. BRANTLEY, M.D.

OBSTETRICS & GYNECOLOGY

1167 E. 42nd St. Sherwood Medical Center Phone
Suites 5 & 6 Odessa, Texas EM 6-4447

THE ORTHOPEDIC CLINIC

Orthopedic Surgery

W. A. BISHOP, JR., M.D., F.A.C.S.

ALVIN L. SWENSON, M.D., F.A.C.S.

RAY FIFE, M.D.

SIDNEY L. STOVALL, M.D., F.A.C.S.

THOMAS H. TABER, JR., M.D., F.A.C.S.

Diplomates of the American Board of Orthopedic Surgery

2620 North Third Street—Phone CRestwood 7-6211—Phoenix, Ariz.

JAMES M. OVENS, M.D.

F.A.C.S., F.I.C.S.

Diplomate American Board of Surgery

CANCER and TUMOR SURGERY

X-RAY and RADIUM THERAPY

608 Professional Building AL B-8074 Phoenix, Ariz.



Southwestern Physicians' Directory



ROBERT E. PARKINS, D.D.S.

GENERAL DENTISTRY

Bldg. I, Suite E 1501 Arizona Ave.
Phone KE 3-1245 El Paso Medical Center El Paso, Texas

MURRAY PERSKY, M.D.

PSYCHIATRY

Suite 15-B 1501 Arizona Ave.
El Paso Medical Center KE 2-7952 El Paso, Texas

JACK C. POSTLEWAITE, M.D.

Diplomate American Board of Internal Medicine

INTERNAL MEDICINE

Suite 5D 1501 Arizona Ave.
El Paso Medical Center KE 2-1385 El Paso, Texas

DONALD RATHBUN, M.D.

NEUROLOGY

and

Internal Medicine

Suite 4B KE 2-877B 1501 Arizona Ave.
El Paso Medical Center El Paso, Texas

VINCENT M. RAVEL, M.D.

Diplomate American Board of Radiology

Radiology — Radio-Isotopes

Cobalt⁶⁰ — Teletherapy

101 University Towers Bldg.
El Paso KE 2-3459 Texas

HERMAN RICE, M.D.

Practice Limited to General Surgery

El Paso Medical Center

Bldg. 4-B 1501 Arizona Ave.
Phone KE 3-8051 El Paso, Texas

RISSLER-WOLLMANN CLINIC

ROSS W. RISSLER, M.D., F.A.C.C.

(Certified by the American Board of Internal Medicine)
INTERNAL MEDICINE — CARDIOLOGY

WALTER W. WOLLMANN, M.D., F.A.C.S.

(Certified by the American Board of Surgery)
GENERAL SURGERY

2001 Grant Ave. KE 3-1601 El Paso, Texas

CECIL A. ROBINSON, M.D., F.A.C.S.

Diplomate American Board of Orthopaedic Surgery

Orthopaedic Surgery

111 No. Pine Street JU 6-2541 Kermit, Texas

3500 Physicians Road

Southwestern Medicine

S. PERRY ROGERS, M.D.

W. HUNTER VAUGHAN, M.D.

(Diplomates American Board of Orthopedic Surgery)

ORTHOPEDIC SURGERY

Suite 2B El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-4433 El Paso, Texas

WILLARD W. SCHUESSLER, M.D.

DONALD H. EWALT, M.D.

Diplomates of the American Board of Plastic Surgery

Plastic, Reconstructive Surgery and

Maxillo-facial Surgery

1501 Arizona Ave. Medical Center, Suite 4-C
El Paso, Texas

F. P. SCHUSTER, M.D.

S. A. SCHUSTER, M.D.

NEWTON F. WALKER, M.D.

BRADFORD HARDIE, M.D.

EYE, EAR, NOSE AND THROAT-BRONCHOSCOPY

First National Bldg. KE 2-1495 El Paso, Texas

O. J. SHAFFER, D.D.S., F.A.C.D.

(Diplomate American Board of Oral Surgery)

ORAL SURGERY

Suite 1D El Paso Medical Center 1501 Arizona Ave.
Phone KE 3-6742 El Paso, Texas

D. J. SIBLEY, JR., M.D.

GENERAL PRACTICE

Box 367 Phone 5B4 Ft. Stockton, Texas

EUGENE P. SIMMS, M.D.

— GENERAL PRACTICE —

Medical Arts Center

1213 Tenth Street HEmlock 7-1720 Alamogordo, N. M.



Southwestern Physicians' Directory



Leslie M. Smith, M.D. John C. Wilkinson, M.D.
H. D. Garrett, M.D.

DRS. SMITH, GARRETT & WILKINSON

Diplomates American Board of Dermatology
DISEASES OF THE SKIN

Suite 3D El Paso Medical Center 1501 Arizona Ave.
Phone KE 3-6172 El Paso, Texas

C. M. STANFILL, M.D.

Diplomate American Board of Otolaryngology

EAR, NOSE AND THROAT
Stapes Mobilization

507 University Towers Building

1900 N. Oregon St. KE 2-9449 El Paso, Texas

ROBERT HEALY STEVENS, B.S., M.D. F.C.C.P.

ALLERGY — INTERNAL MEDICINE

1313 N. Second St. AL 4-8841 Phoenix, Arizona

C. S. STONE, M.D., F.A.C.S.

A. J. JENSON, B.A., M.D.

Phones: 3-5323 — 3-3033 — 3-4427

301 East Cain Street Hobbs, N.M.

JESSON L. STOWE, M.D.

GRAY E. CARPENTER, M.D.

GYNECOLOGY AND OBSTETRICS

2323 Montana Avenue KE 2-4631 El Paso, Texas

WINSLOW P. STRATEMEYER, M.D.

Diplomate American Board of Neurological Surgery

NEUROLOGICAL SURGERY

Suite 11A Office KE 2-9167 1501 Arizona Ave.
El Paso Medical Center Home JU 4-0553 El Paso, Texas

3500 Physicians Road

Southwestern Medicine

M. D. THOMAS, M.D.

Diplomate American Board of Anesthesiology

Suite 12-D KE 3-3745
1501 Arizona Ave. El Paso, Texas

El Paso Medical Center

ROBERT F. THOMPSON, M.D., F.A.C.S.

(Certified by American Board of Urology)

UROLOGY

301 University Towers Building
1900 N. Oregon St. KE 2-4321 El Paso, Texas

TURNER'S CLINICAL & X-RAY LABORATORIES

GEORGE TURNER, M.D.

DELPHIN von BRIESEN, M.D.

HELEN W. ANDERSON, M.D.

MEDICAL CENTER

1501 Arizona Ave. Phone: KE 2-4689
Building No. 6 El Paso, Texas

3500 Physicians Road

Southwestern Medicine

HARRY H. VARNER, M.D.

LEIGH E. WILCOX, M.D.

RUSSELL L. DETER, M.D.

GENERAL SURGERY

Suite 5E 1501 Arizona Ave.
El Paso Medical Center El Paso, Texas
Phone KE 2-6529

WILLIAM H. WADE, M.D., F.A.C.S.

Diplomate American Board of Surgery

GENERAL SURGERY

CARDIOVASCULAR SURGERY

307 Medical Arts Building
415 E. Yandell Drive KE 2-8111 El Paso, Texas

RICHARD P. WAGGONER, M.D.

M.S. (SURG.), F.A.C.S.

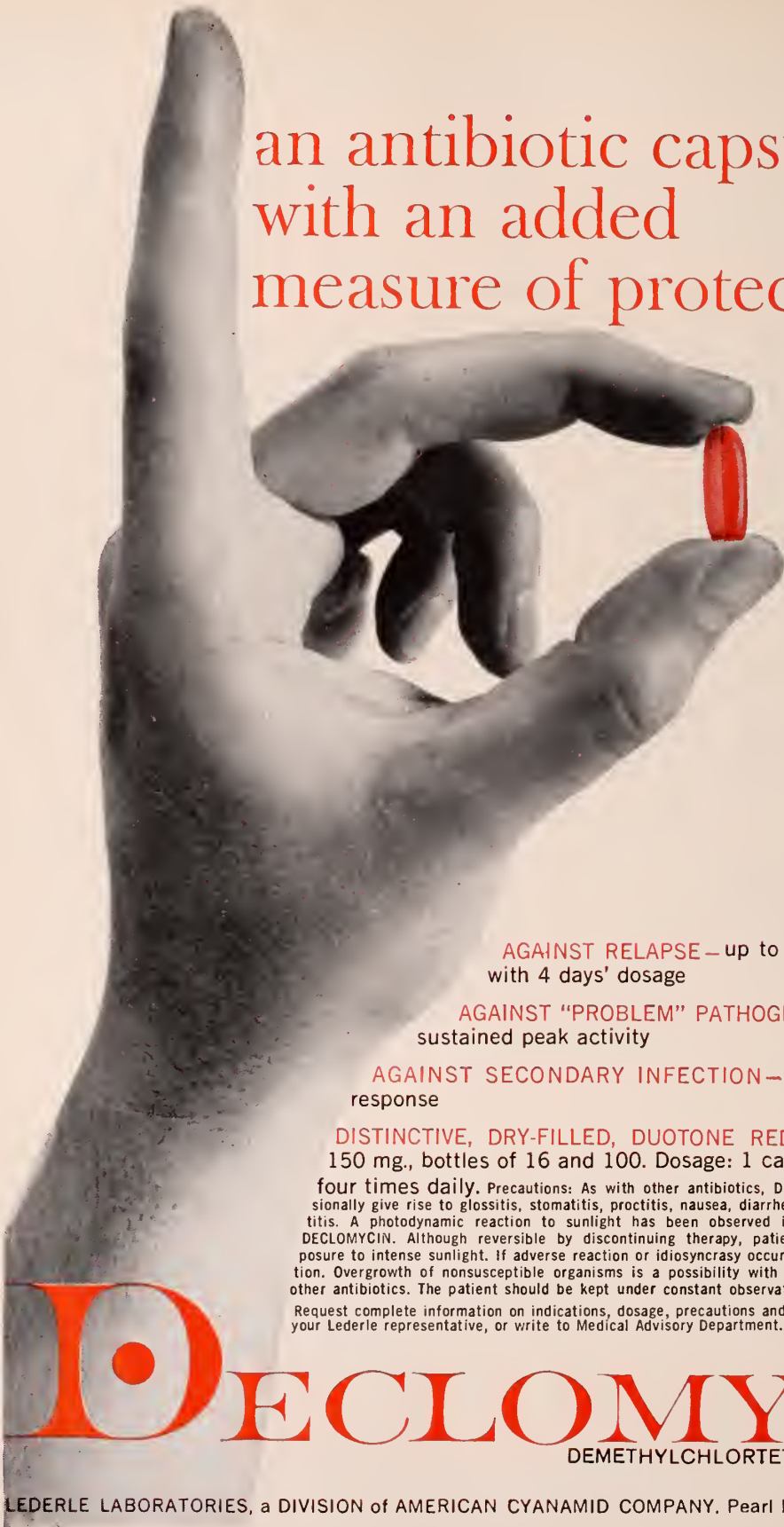
GENERAL SURGERY

504 N. Richardson St. Phone 208 Roswell, N. M.

GRADY M. WALLACE, M.D., D.A.B.O.

Practice Limited to the Eye

3801 19th Street SW 9-4343 Lubbock, Texas



an antibiotic capsule
with an added
measure of protection

AGAINST RELAPSE—up to 6 days' activity
with 4 days' dosage

AGAINST "PROBLEM" PATHOGENS—uniformly
sustained peak activity

AGAINST SECONDARY INFECTION—full antibiotic
response

DISTINCTIVE, DRY-FILLED, DUOTONE RED CAPSULES—
150 mg., bottles of 16 and 100. Dosage: 1 capsule (150 mg.)

four times daily. Precautions: As with other antibiotics, DECLOMYCIN may occasionally give rise to glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis or dermatitis. A photodynamic reaction to sunlight has been observed in a few patients on DECLOMYCIN. Although reversible by discontinuing therapy, patients should avoid exposure to intense sunlight. If adverse reaction or idiosyncrasy occurs, discontinue medication. Overgrowth of nonsusceptible organisms is a possibility with DECLOMYCIN, as with other antibiotics. The patient should be kept under constant observation.

Request complete information on indications, dosage, precautions and contraindications from your Lederle representative, or write to Medical Advisory Department.

DECLOMYCIN[®]
DEMETHYLCHLORTETRACYCLINE LEDERLE

LEDERLE LABORATORIES, a DIVISION of AMERICAN CYANAMID COMPANY, Pearl River, New York





Southwestern General Hospital

Accredited by the Joint Commission on Accreditation of Hospitals

Member Hospital:

American Hospital Association
Texas Hospital Association
Blue Cross of Texas

•

COTTON AVENUE AND ERIE STREET • EL PASO, TEXAS

Hotel Dieu, Sister's Hospital

Fully Approved by the
Joint Commission on Accreditation
of Hospitals.

Latest Facilities For All Services.
Emergency Service Around
the Clock.

EL PASO, TEXAS

Hotel Dieu School of Nursing

Fully approved by the
National Nursing Accrediting
Service.

Applicants May Apply
To
Sister Aloysius, *Director*

EL PASO, TEXAS

Hotel Dieu School of Medical Technology

Fully Approved by the American
Medical Association, American
Society of Clinical Pathologists,
and Registry of Medical Tech-
nologists.

EL PASO, TEXAS

The Clinic-Hospital of San Angelo

D. D. WALL, M.D.
Obstetrics & Gynecology
R. M. FINKS, M.D.
Pediatrics
M. D. KNIGHT, M.D.
Surgery
W. H. BRAUNS, M.D.
Internal Medicine

ROY E. MOON, M.D.
Obstetrics & Gynecology
CHAS. F. ENGELKING, M.D.
Ear, Nose and Throat
DALE W. HAYTER, M.D.
Ophthalmology

R. A. MORSE, M.D.
Internal Medicine
RALPH R. CHASE, M.D.
Pediatrics
TOM R. HUNTER, M.D.
Surgery
H. W. DISERENS, M.D.
Pediatrics

Consultant in Pathology: LLOYD R. HERSHBERGER, M.D.

Consultants in Radiology: JOHN E. BALLARD, M. D.; JOHN G. BOLEN, M.D.

224-234 W. BEAUREGARD AVE.

J. B. ADCOCK, Administrator

SAN ANGELO, TEXAS

Butazolidin

brand of phenylbutazone

Geigy

in arthritis and allied disorders



Proved by a decade of experience

Ten years of world-wide experience... almost all published reports... have progressively entrenched Butazolidin as the leading nonhormonal antiarthritic agent.

In virtually all forms of arthritic disorder, Butazolidin affords prompt symptomatic and objective improvement without development of tolerance... without danger of hypercortisonism.

Butazolidin[®], brand of phenylbutazone, tablets contain 100 mg.; Butazolidin[®] alka capsules contain Butazolidin, 100 mg.; dried aluminum hydroxide, 100 mg.; magnesium trisilicate, 150 mg.; homarine hydrochloride, 1.25 mg.; pine methylbromide, 1.25 mg.

Give Us A Trial On Your

TAYLOR BACK BRACE

Orders

- Send the following measurements: from level of shoulders to tip of sacrum; circumference of pelvis above trochanters; circumference of waist; height and weight.

CHRISTOPHER'S BRACE AND LIMB CO.

2231 Montana St.

KE 2-9690

EL PASO, TEXAS

UNIFORMS

Doctors • Nurses • Interns • Technicians

Poplin, Nylon, Dacron
White and Colors

SURE-FIT UNIFORM CO.

612 N. Oregon St.

KE 2-1374

El Paso, Texas

C. G. McDow and Son, Props.

Rio Grande Pharmacy

419-421 South Stanton St.

KE 2-4473

El Paso, Texas

Tops in Comfort and Style . . .

DOBBS FINE HATS

POPULAR DRY GOODS CO.

EL PASO

TAYLOR-SIMPKINS, INC.

MEDICAL OXYGEN

2123 Texas St.

KE 3-0952

El Paso, Texas

Nights — Call LO 5-0359, or LO 5-3060



MEDICAL CENTER PHARMACY

YOUR PROFESSIONAL PHARMACY
IN THE NEW MEDICAL CENTER

PHONE 2-6968-69

1501 ARIZONA ST.

EL PASO, TEXAS

We Carry A Complete Line of

DIABETIC FOODS AND SUPPLIES

McKEE PRESCRIPTION PHARMACY

107 East San Antonio Ave., El Paso

Dial KE 2-2693

For Your Convenience

Use Our Handy Charge-A-Plate Service!

the white house

El Paso, Texas

RICHARD E. MARTIN

MARTIN MORTUARY

Dial KE 2-3691

710 N. Stanton St.

El Paso, Texas

HARDING AND ORR

Funeral Home

EL PASO, TEXAS

320 Montana Ave.

KE 3-1646

Kaster & Maxon

Funeral Home

El Paso, Texas

KE 2-3431

GUNNING & CASTEEL DRUG STORES

"There is no finer prescription service . . . anywhere"

14 Conveniently Located Stores

El Paso, Texas





Front View — Enclosed Patio

Sandia Ranch Sanatorium, Inc.

Rt. 4, Box 4104

Diamond 4-1618

Albuquerque, New Mexico

Licensed by State Health Department as a Psychiatric Hospital of 68 Beds
For the Care and Treatment of Nervous or Mental Disorders

VARIOUS ACCEPTED FORMS OF THERAPY AVAILABLE

OCCUPATIONAL THERAPY AND OUTDOOR ACTIVITIES

CLINICAL LABORATORY AND ELECTROENCEPHALOGRAM

LIMITED FACILITIES FOR DOMICILIARY CARE

Favorable Year Round Climate — 20 Acres Landscaped Grounds

JOHN W. MYERS, M.D., Medical Director

ALAN JACOBSON, M.D., Psychiatrist

HENRY T. PENLEY, M.D., Psychiatrist

OVERTON CLINIC

300 Hughes Building

PAMPA, TEXAS

M. C. Overton, Jr., M.D.

Surgery and Gynecology

E. S. Williams, M.D.

Pediatrics and Obstetrics

J. R. Donaldson, M.D.

Surgery

G. R. Hrdlicka, M.D.

Radiology

C. M. Lang, M.D.

Surgery

R. W. Moore, M.D.

Internal Medicine

DUTTON LABORATORIES

FREDERICK P. BORNSTEIN, M.D.

(Certified by American Board of Pathology)

Pathological Anatomy and Forensic Pathology

RITA L. DON, M.D.

(Associate Fellow, American College of Allergists)

Allergy and Clinical Pathology

JOHN B. FRERICHS, M.D.

(Certified by American Board of Pathology)

Pathological Anatomy and Clinical Pathology

J. A. HANCOCK, Ph.D.

Consultant in Chemistry

616 Mills Bldg.

KE 2-3901

102 University Towers

El Paso, Texas



Occupational therapist guides patient
in newly acquired hobby of making artificial flowers.
All patients at Camelback Hospital are encouraged to participate
in constructive hobbies as another integral part of their
rehabilitation program, according to doctor's instructions.
Hobbies may be pursued outdoors in the scenic recreation
area or in the special hobby workshop in the hospital.

Located in the heart of the
beautiful Phoenix citrus area
near picturesque Camelback
Mountain, the hospital is
dedicated exclusively to the
treatment of psychiatric and
psychosomatic disorders,
including alcoholism.

Camelback Hospital



5055 North 34th Street

Creswood 7-7431

PHOENIX, ARIZONA

OTTO L. BENDHEIM, M.D., F.A.P.A., MEDICAL DIRECTOR

Southwestern Surgical Supply Company

Your Complete Source in The Southwest
For All

Ethical Medical Equipment
and Supplies

EL PASO

ALBUQUERQUE

PHOENIX

**Iron
And
Catalysts**

**NEW
IRONIN-G**

No Fish Oils
No Disagreeable
Odor

- Hematinic
- Therapeutic
Vitamins
- Essential
Minerals

Mission PHARMACAL CO.
SAN ANTONIO, TEXAS

135 tiny doses mean smoother steroid therapy...

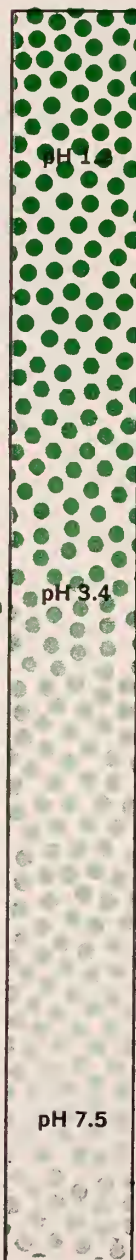


In the relatively acid medium of the fasting stomach, Medrol Medules remain essentially intact — only 5% of the Medrol content is released after 2 hours at pH 1.2. However, in the environment of the duodenum (approaching a pH of 7.5), from 90 to 100% of the Medrol is released over a period of 4 hours.

Slow
Release

Slow
Absorption

Sustained
Action



in acute allergic disorders:

Judged to be "a nearly ideal formulation,"[†] Medrol Medules gave good to excellent results in 25 of 28 children with various acute allergic disorders. "There were no serious side effects and minor complaints were reported in only two patients."[†] The author also found that "there is a definite advantage for Medrol Medules inasmuch as much smaller doses seem able to produce full clinical relief..."[†]

Indications and effects

Medrol benefits (anti-inflammatory, anti-allergic, antirheumatic, antileukemic, anti-hemolytic) have been demonstrated in acute rheumatic carditis, rheumatoid arthritis, asthma, hay fever and allergic disorders, dermatoses, blood dyscrasias, and ocular inflammatory disease involving the posterior segment.

Precautions and contraindications

Because of Medrol's high therapeutic ratio, patients usually experience dramatic relief *without* developing such possible steroid side effects as gastrointestinal intolerance, weight gain or weight loss, edema, hypertension, acne, or emotional imbalance.

As in all corticotherapy, however, there are certain cautions to be observed. The presence of diabetes, osteoporosis, chronic psychotic reactions, predisposition to thrombophlebitis, hypertension, congestive heart failure, renal insufficiency, or active tuberculosis necessitates careful control in the use of steroids. Like all corticosteroids, Medrol is contraindicated in patients with arrested tuberculosis, peptic ulcer, acute psychoses, Cushing's syndrome, herpes simplex keratitis, vaccinia, or varicella.

I. Dugger, J. A.: J. Michigan M. Soc. 59:1812 (Dec.) 1960.

Medrol^{*} Medules[†]

Each capsule contains: Medrol (methylprednisolone) 4 mg.

Supplied in bottles of 30 and 100.

Medrol hits the disease, but spares the patient.

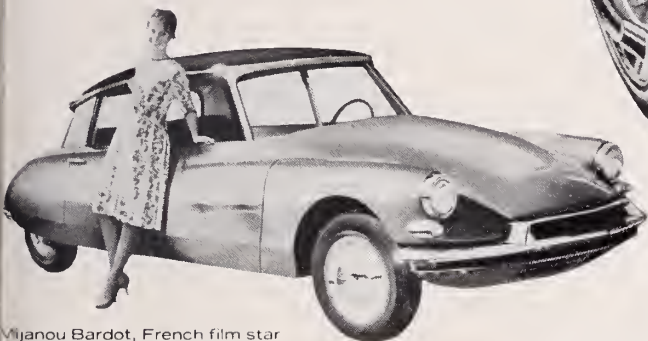
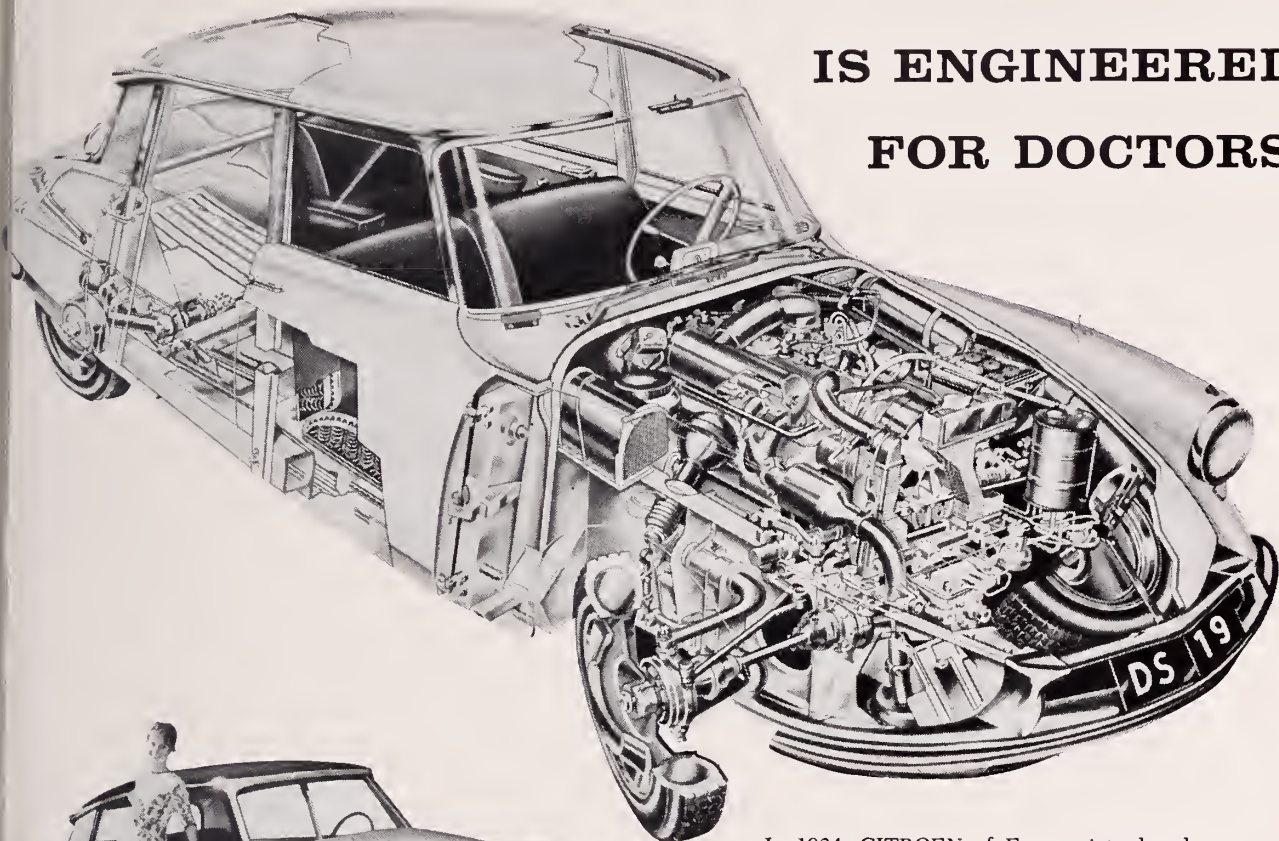


Upjohn 75th year
The Upjohn Company
Kalamazoo, Michigan

^{*}Trademark, Reg. U. S. Pat. Off.
[†]Trademark

THE ANATOMY OF A CITROËN

IS ENGINEERED FOR DOCTORS



Vivanou Bardot, French film star

In 1934, CITROËN of France, introduced an entirely new automobile. "The car 20 years ahead." The first front-wheel drive CITROËN, with unit frame and torsion bar suspension all around. The accuracy of the slogan is shown by the fact that this model was continued relatively unchanged, until 1955.

Let's examine a CITROËN, transportation that's "years ahead for years to come," from stem to stern, a functional automobile.

FRONT BUMPERS . . . stainless steel, built in a half circle.

WIND TUNNEL STREAMLINED STYLING . . . Jet nosed aerodynamic design plus full belly pan insures minimum drag.

FRONT WHEEL DRIVE . . . what happened to pusher type aircraft? Over a quarter of a century ago, CITROËN changed from push to pull propulsion. All running gear is in front of the firewall. No long drive shaft with floor tunnel. More trunk room.

STEERING . . . no spoke, curved column wheel. Rack and pinion. 36 foot turning circle.

SUSPENSION . . . hydro-pneumatic on each wheel, exclusively CITROËN's . . . The world's easiest riding car. Greatly enhances handling and roadability. Self-leveling regardless of passengers or luggage weight distribution. Enables ground clearances of from 3 to 13 inches. Quick, effortless, tire changing.

WHEELBASE . . . long 123" same as big cars, gives unmatched riding comfort. Overall length of 189 inches (20 inches less than the average of the three most popular cars). Wheels are at each corner of the car.

SEATING . . . full, deep foam rubber cushioning, arm rests and carpet padding. Fully reclining contour front seats.

INTERIOR . . . completely flat floors. Heater, clock, windshield wiper and washer, octaine control on dash, manual choke are standard equipment.

LUBRICATION . . . only four points to service; all in front of the firewall.

BRAKES . . . front brakes are inboard, fade-free, self-adjusting disc.

FRAME . . . the CITROËN frame is a steel underbody with a 7 inch box section and siderails.

BODY . . . and fender panels are easily removable from monoshell frame.

ENGINE . . . displaces 116.6 cubic inches. Wet cylinder sleeves seated on individual gaskets at the bottom of the water jacket are a CITROËN feature. Cylinder head is cast aluminum, 7.5:1 compression gives 75 b.h.p. at 4500 rpm. Top speed on regular gas is 100 mph; with cruising speed of 85 mph.

GEAR BOX . . . four forward speeds are helical, upper three are synchronized.

ECONOMY . . . depending on conditions, speed and driver, 35 miles per gallon on regular gas is fair.

PRICE . . . CITROËN sedans are priced from \$2395 delivered at port of entry. Station wagons are \$3395 p.o.e. Above plus tax and license. How can you afford not to own a CITROËN?

For the name and address of your nearest CITROËN dealer, call, visit or write:

CITROËN CARS CORPORATION, 8423 Wilshire Blvd., Beverly Hills, Calif. OLIVE 3-8330 or 300 Park Avenue, New York 22, New York

ASTHMA RELIEF

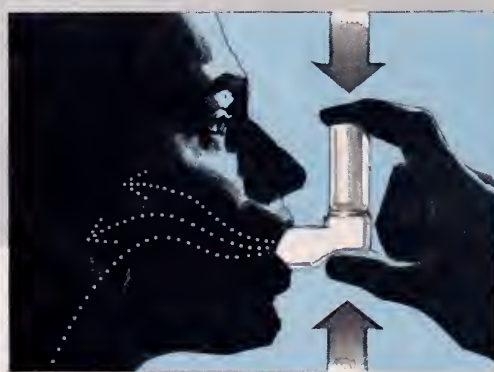
in seconds

MEDIHALER[®]

the most effective
anti-asthmatics...

administered in the
most effective manner...

simplest and most
convenient for
the patient...



Available with either of the two
outstanding bronchodilators

MEDIHALER-ISO[®]

Isoproterenol sulfate, 2.0 mg. per cc., suspended in inert, nontoxic aerosol vehicle. Contains no alcohol. Each automatically measured dose contains 0.075 mg. isoproterenol.

MEDIHALER-EPI[®]

Epinephrine bitartrate, 7.0 mg. per cc., suspended in inert, nontoxic aerosol vehicle. Contains no alcohol. Each automatically measured dose contains 0.15 mg. epinephrine.

Usual precautions for administration of isoproterenol and epinephrine should be observed.



Northridge, California

Janet Doe, Librarian
New York Academy of Medicine
2 East 103 Street
New York 29, New York

Southwestern MEDICINE

Official Journal of The Southwestern Medical Association, The Western Association of Railway Surgeons, The Texas Orthopaedic Association, The Southwest Obstetrical and Gynecological Society, The Southwestern Dermatological Society, Texas District One Medical Association, The Southwestern New Mexico Medical Society, and El Paso County Medical Society

IN THIS ISSUE

- | | |
|---|----------|
| Santa Fe Seminar
Transfusion Reactions | Page 261 |
| A Review of Infant Mortality in New Mexico
and the Bordering Mexican States
(Final Section) | Page 272 |
| The Postalcoholic Syndrome
Symptomatic Control with Hydroxyzine | Page 276 |

COMPLETE CONTENTS ON PAGE 254

N. M. AAGP Summer Clinic, Ruidoso, July 17-20

THE N.Y. ACADEMY
OF MEDICINE
JUN 13 1961
LIBRARY

June, 1961

VOL. 42, NO. 6



Founded 1916

in allergies For smooth,
continuous control of allergic symptoms—relief in minutes for hours, with
virtually no side-effects. And there is a dosage form for every allergic patient.
Pulvules® • Suspension • Pediatric Pulvules **Co-Pyronil®**

(pyrrobutamine compound, Lilly)

158007



In convenient tablet form...

LOMOTIL[®]

(BRAND OF DIPHENOXYLATE HYDROCHLORIDE WITH ATROPINE SULFATE)

LOWers propulsive
MOTILity

Stops diarrhea promptly

Now an exempt preparation under
revised Federal Narcotic Laws

Extensive clinical experience in the United States and Europe demonstrates that Lomotil provides prompt and positive symptomatic control of diarrhea.

Lomotil possesses a highly efficient antiperistaltic action. It controls diarrhea with few or none of the undesirable side effects of many other commonly used antiperistaltic agents.

In the control of diarrhea, Lomotil offers safety, efficacy and greater convenience.

DOSAGE: The recommended initial dosage for adults is two tablets (2.5 mg. each) three or four times daily, reduced to meet the requirements

of each patient as soon as the diarrhea is under control. Maintenance dosage may be as low as two tablets daily. Lomotil, brand of diphenoxy-
late hydrochloride with atropine sulfate, is supplied as unscored, uncoated white tablets of 2.5 mg., each containing 0.025 mg. ($\frac{1}{2400}$ grain) of atropine sulfate to discourage deliberate over-dosage.

Recommended dosage schedules should not be exceeded.

G. D. SEARLE & CO.

CHICAGO 80, ILLINOIS

Research in the Service of Medicine

Southwestern Medicine

*The U. S.-Mexico Regional Medical Journal Serving West
Texas, New Mexico, Arizona, Nevada and Northern Mexico*

Official Journal of

The Southwestern Medical Association, The Western Association of
Railway Surgeons, The Texas Orthopaedic Association, The
Southwest Obstetrical and Gynecological Society, The
Southwestern Dermatological Society, Texas District
One Medical Association, The Southwestern New
Mexico Medical Society, and El Paso County
Medical Society

VOL. 42

JUNE, 1961

No. 6

BOARD OF MANAGERS

Sherwood Burr, M.D.	Leland Evans, M.D.
Harold J. Beck, M.D.	Darwin Neubauer, M.D.
David Russek, M.D.	Carlos Tapia, M.D.
M. D. Thomas, M.D.	Louis W. Breck, M.D.
John Dettweiler, M.D.	H. D. Garrett, M.D.
Russell L. Deter, M.D.	Jack A. Bernard, M.D.
Louis G. Jekel, M.D.	Morton H. Leonard, M.D.
John F. Wanless, M.D.	

EDITOR — Lester C. Feener, M.D.
404 Banner Building, El Paso, Texas

MANAGING EDITOR — Louis W. Breck, M.D.
1220 North Stanton Street, El Paso, Texas

ASSOCIATE EDITORS
Branch Craig, M.D. Maurice P. Spearman, M.D.

ADVERTISING AND SUBSCRIPTION OFFICES

Mott, Reid & McFall

Publishers

310 N. Stanton St., El Paso, Texas

Publication Office

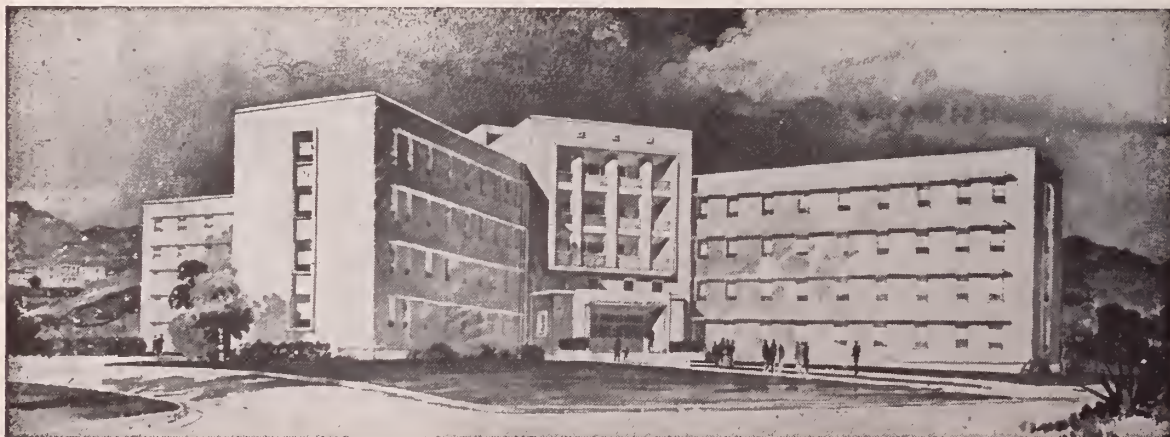
265 Texas St., Fort Worth, Texas

Subscription Price \$5.00 — Single copies 50c

Published Monthly

Gordon M. Marshall — National Advertising Representative
30 West Washington Street, Chicago, Ill., Dearborn 2-5148;
Eastern Office — John H. Hinse, Room 340, 15 West 44th Street
New York 36, Oxford 7-5262.

Second-class mail privileges authorized at Fort Worth, Texas
Postmaster: All undeliverable copies returnable under Form 3579
should be to Southwestern Medicine, 310 North Stanton Street,
El Paso, Texas.



Providence Memorial Hospital

The Modern Hospital of the Southwest

APPROVED BY THE JOINT COMMISSION ON ACCREDITATION OF HOSPITALS

COMPLETE DIAGNOSTIC and TREATMENT FACILITIES

ISOTOPE THERAPY AND STUDIES

COBALT 60 ROTATIONAL TELETHERAPY UNIT

OUTSTANDING CHEMISTRY LABORATORY

FACILITIES FOR PSYCHIATRIC THERAPY

ELECTROENCEPHALOGRAPHIC LABORATORY

2001 North Oregon Street

• El Paso, Texas

new Tandearil®

brand of oxyphenbutazone

Geigy

inflammation takes flight



a new development in nonhormonal, anti-inflammatory therapy

more specific than steroids—

Acts directly on the inflammatory lesion without altering pituitary-adrenal function . . . without impairing immunity responses.^{6,11}

more dependable than enzymes—

Rapid and complete absorption, without the uncertainty of oral or buccal enzyme therapy.⁶

more potent than salicylates—

Anti-inflammatory potency of Tandearil markedly superior to aspirin.¹²

Remarkably useful in a wide variety of inflammatory conditions, including: rheumatoid arthritis, spondylitis, osteoarthritis^{1,2,3}; gout^{1,4,5}; acute superficial thrombophlebitis^{6,7}; painful shoulder (peritendinitis, capsulitis, bursitis, and acute arthritis of that joint)^{1,4}; severe forms of a variety of local inflammatory conditions^{6,9,10}.

The physician should be thoroughly familiar with the dosage, side effects, precautions and contraindications of Tandearil before prescribing. Full product information available on request.

availability:

Round, tan, sugar-coated tablets of 100 mg. in bottles of 100 and 1000.

references:

1. Graham, W.: *Canad. M.A.J.*: **82**:1005 (May 14) 1960.
2. Vaughn, P. P.; Howell, D. S., and Kiem, I. M.: *Arth. and Rheumat.* **2**:212, 1959.
3. O'Reilly, T. J.: *J. Irish M.A.* **46**:106, 1960.
4. Connell, J. F., Jr., and Rousselot, L. M.: *Am. J. Surg.* **98**:31, 1959.
5. Brodie, B. B., et al., in *Contemporary Rheumatology 1956*, p. 600.
6. Stein, I. D.: *Ann. N. Y. Acad. Sc.* **86**:307 (March 30) 1960.
7. Barczyk, W., and Röth, W.: *Praxis* **49**:589, 1960.
8. Miller, J. M., et al.: *Antibiotic Med. and Clin.*

- Therap. **7**:109, 1960.
9. Connell, J. F., Jr., and Rousselot, L. M.: *Am. J. Surg.* **97**:429, 1959.
10. Summary of individual case histories submitted to Geigy.
11. Domenjoz, R.: *Ann. N. Y. Acad. Sc.* **86**:263, 1960.
12. Smyth, C. J.: *Ann. N. Y. Acad. Sc.* **86**:292, 1960.

Geigy Pharmaceuticals
Division of Geigy Chemical Corporation
Ardsley, New York
545-61

New approach to acne



pHisoHex[®] and pHisoAc[®] Cream

"No patient failed to improve" when pHisoHex (containing 3 per cent hexachlorophene) was added as the antibacterial wash to the standard treatment for acne. pHisoHex provides not only superior cleansing but also **continuous** antibacterial action for patients with acne. Now, with new pHisoAc keratolytic cream the management of patients with acne is simplified and even more effective. pHisoAc is applied topically once or twice daily to suppress and mask lesions and to dry, peel and degerm the skin. When used together, pHisoHex and pHisoAc are a potent complementary combination against acne.

Winthrop

LABORATORIES
New York 18, N. Y.

1. Hodges, F.T.: GP 14:86, Nov., 1956.

pHisoHex and pHisoAc, trademarks reg. U. S. Pat. Off.



When the Mountain Did Go to Mahomet

For the parents of retarded or emotionally disturbed children, transportation expenses for enrollment and visits at a usually distant treatment center — added to the cost of residential treatment itself — could, on occasion, make it impossible for the parents to give their child the benefits of an individualized, twenty-four-hours-a-day program, under full professional guidance.

Cognizant of this factor, The Devereux Foundation has pioneered three branches, which, in effect, make it one of the most accessible residential treatment centers in the United States. At each branch outstanding therapeutic, educational, and vocational services are available.

Physicians and parents in the Southwest please write direct to Devereux Schools in Texas, Box 336, Victoria, Texas.

JOHN M. BARCLAY, Administrator

GEORGE A. CONSTANT, M.D., Psychiatric Consultant

WILLIAM A. GOODSPEED, M.S., Psychologist

THE DEVEREUX FOUNDATION

A nonprofit organization
Founded 1912
Devon, Pennsylvania
Santa Barbara, California
Victoria, Texas

SCHOOLS
COMMUNITIES
CAMPS
TRAINING
RESEARCH

HELENA T. DEVEREUX

Administrative Consultant

EDWARD L. FRENCH, Ph.D.

Director

Maximal bending before medication



ROBAXIN Injectable administered



Dramatic improvement 15 minutes later



Factual Clinical Data: Male patient with marked spasm of right lumbar region found even slight bending extremely painful. Fifteen minutes after administration of 10 cc. of ROBAXIN Injectable, spasm had disappeared and patient could bend without pain. Photographs used with permission of patient.

References: 1. Carpenter, E. B.: Southern M.J. 51:627, 1958. 2. Forsyth, H. F.: J.A.M.A. 167:163, 1958. 3. Grisolia, A., and Thomson, J. E. M.: Clin. Orthopaedics 13:299, 1959. 4. Leventen, E. O., and Vaccarino, F. P.: Current Therap. Res. 2:497, 1960. 5. Lewis, W. B.: California Med. 90:26, 1959. 6. O'Coherly, D. S., and Shields, C. D.: J.A.M.A. 167:160, 1958. 7. Park, H. W.: J.A.M.A. 167:168, 1958. 8. Plumb, C. S.: Journal-Lancet 78:531, 1958. 9. Poppen, J. L., and Flanagan, M. E.: J.A.M.A. 171:298, 1959. 10. Schaubel, H. J.: Orthopaedics 1:274, 1959.

In a matter of minutes



"excellent" relief^{4,10} in skeletal muscle spasm with

Robaxin[®]

INJECTABLE Methocarbamol Robins
U.S. Pat. No. 2,770,649

Robins

- "... subjective relief of pain usually began within ten minutes..."¹⁰
- "... a valuable therapeutic agent for the treatment of acute disorders involving skeletal muscle spasm."⁴
- "... effective in producing immediate relaxation of paravertebral muscle spasm in patients who have undergone cervical and lumbar laminectomies."⁹

...for continuing relief without drowsiness

Robaxin[®]

TABLETS Methocarbamol Robins

Robins

Ten published studies with 474 patients show ROBAXIN Injectable and ROBAXIN Tablets beneficial in 89% of cases.¹⁻¹⁰

- "... a superior skeletal muscle relaxant in acute orthopedic conditions."¹
- "An excellent result, after methocarbamol administration, was obtained in all patients with acute skeletal muscle spasm."⁶
- "In no instance was there decrease in intensity of simple reflex responses or voluntary muscular strength."⁷

Supply: ROBAXIN Injectable, 1.0 Gm. methocarbamol in 10-cc. ampul. ROBAXIN Tablets, 0.5 Gm. (white, scored) in bottles of 50 and 500.

Also available, for oral use when severe pain accompanies skeletal muscle spasm: ROBAXISAL Tablets (Robaxin with Aspirin) in bottles of 100 and 500. ROBAXISAL-PH (Robaxin with Phenaphen[®]) in bottles of 100 and 500.

A. H. ROBINS CO., INC., RICHMOND 20, VIRGINIA
Making today's medicines with integrity... seeking tomorrow's with persistence

Contents

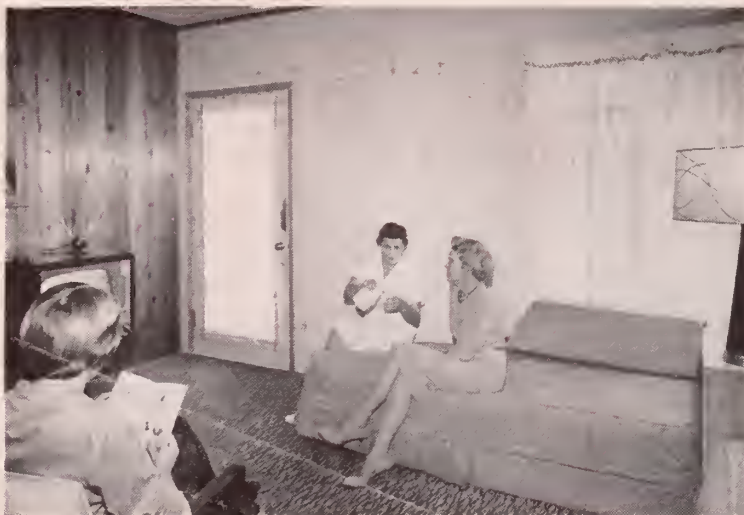
Santa Fe Seminar — Transfusion Reactions St. Vincent Hospital, Santa Fe Chairman: Harry D. Ellis, M.D. Seminar Summary: E. Eric Muirhead, M.D.Page 261
---	---------------

A Review of Infant Mortality in New Mexico and the Bordering Mexican States (Final Section) By Roy F. Goddard, M.D., Albuquerque; Stanley J. Leland, M.D., Santa Fe; and John C. Cobb, M.D., BaltimorePage 272
---	---------------

The Postalcoholic Syndrome; Symptomatic Control with Hydroxyzine By Harold I. Goldman, M.D., DenverPage 276
--	---------------

New Mexico GPs to Meet July 17-20 in RuidosoPage 279
--	---------------

Coming MeetingsPage 279
-----------------	---------------



Located in the heart of the beautiful Phoenix citrus area near picturesque Camelback Mountain, the hospital is dedicated exclusively to the treatment of psychiatric and psychosomatic disorders, including alcoholism.

Constant care, supervision and companionship are an integral part of the therapy program at Camelback Hospital. Whether patients prefer restful hobbies such as TV viewing, reading, conversing in the modern, comfortable rooms, or enjoy more active out-of-doors recreation, highly-trained, registered nurses are always nearby

Camelback Hospital

5055 North 34th Street
 AMherst 4-4111
 PHOENIX, ARIZONA
 OTTO L. BENDHEIM, M.D., F.A.P.A., Medical Director



ENDS ITCH FAST

ORAL ALLERCUR REACHES
THE SKIN IN 10 MINUTES¹
FOR PROLONGED RELIEF

Allercur is the systemic answer to a dermatology problem. This single agent provides fast, prolonged relief of itching, both allergic and nonallergic, with only 2 to 4 tablets daily—without timed-release devices. Drowsiness and other side effects are of low degree. Unlike topical preparations, Allercur frees the patient of messy, inconvenient local application. Many risks of systemic phenothiazine and glucocorticoid therapy are decreased.

Effective: "An excellent or good antipruritic response occurred in 69 patients (79.5%). No toxic reactions occurred and there were virtually no side effects. Particularly notable were the absence of drowsiness and the rapidity with which the remission of itching occurred."² Allercur is also effective in the management of conditions such as nasal allergy, including seasonal hay fever.

CAUTION: If drowsiness occurs, patients should avoid activities demanding alertness.

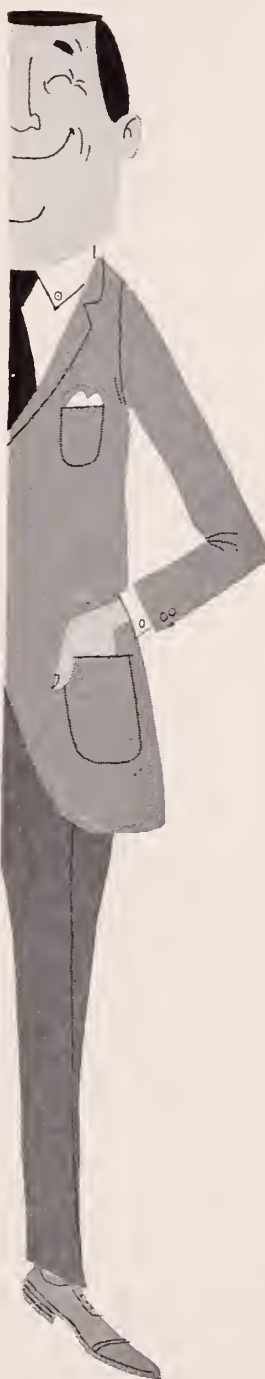
AVERAGE DOSE: 2 to 4 tablets daily in divided doses.

SUPPLIED: Tan, scored tablets, each containing 20 mg. clemizole HCl, in bottles of 100.

REFERENCES: 1. Kimmig, J.: *Hautarzt* 3:414 (Sept.) 1952.
2. Butler, P.G.: *Western Med.* 1:16 (Nov.) 1960.
Bibliography on request.



New York 17, N. Y.
Division, Chas. Pfizer & Co., Inc.
Science for the World's Well-Being®



when allergies occur **R_x**

ALLERCUR^{*}

^{*}Reg. T. M., Schering, A. G., Berlin

(clemizole HCl)



PSYCHIATRIC HOSPITAL

DAY HOSPITAL

DEPARTMENT OF OUT PATIENT PSYCHIATRY

TIMBERLAWN FOUNDATION

For Education and Research in Psychiatry

Narcotic Cases Not Admitted

TIMBERLAWN

PSYCHIATRIC CENTER

PERRY C. TALKINGTON, M. D., Clinical Director

CHARLES L. BLOSS, M. D., Medical Director

Associate Psychiatrists

HOWARD M. BURKETT, M. D.

JAMES K. PEDEN, M. D.

WARD G. DIXON, M. D.

PERRY M. LEWIS, M. D.

D. L. JACKSON, M. D.

ALPH M. BARNETTE, JR., B. B. A., Business Manager

Clinical Psychology

PHILIP ROOS, PH. D.

DONALD BERTOCH, M. A.

Social Work

BILL M. TURNAGE, M. S. S. W.

ROBERT L. COATES, M. S. S. W.

GERALDINE SKINNER, B. S., O. T. R., Director of Occupational Therapy

LOIS TIMMINS, PH. D., Director of Recreational Therapy

FRANCES LUMPKIN, R. N., B. S., Director of Nurses

Evergreen 1-2121

Dallas 21, Texas

P. O. Box 1769

Q
U
A
L
I
T
Y



P
A
P
E
R
S

EXAMINATION TABLE ROLLS

All Sizes Available

Smooth and Crepe Paper

PROFESSIONAL TOWELS

Best Quality Cellulose

White and Green

ASK YOUR SUPPLIER FOR TIDI.

TIDI PRODUCTS are always of best quality,
uniform, and economical in use.

Distributed throughout the USA

M'd. by TIDI PRODUCTS, Pomona, California

FOSFREE

The Answer to
the Problem
of Pregnancy

NAUSEA

ANEMIA

LEG CRAMPS

Small · Tasteless · Inexpensive

Mission PHARMACAL CO.

SAN ANTONIO, TEXAS

FOR EFFECTIVE FLUID MAINTENANCE THERAPY[†]

ISOLYTE[®] M

Composition per Liter							
Dextrose Gm.	Milliequivalents					Calories	mOs.
	Na ⁺	K ⁺	CL ⁻	Lact ⁻ *	HPO ₄ ⁼		
50	40	35	40	20	15	180	400

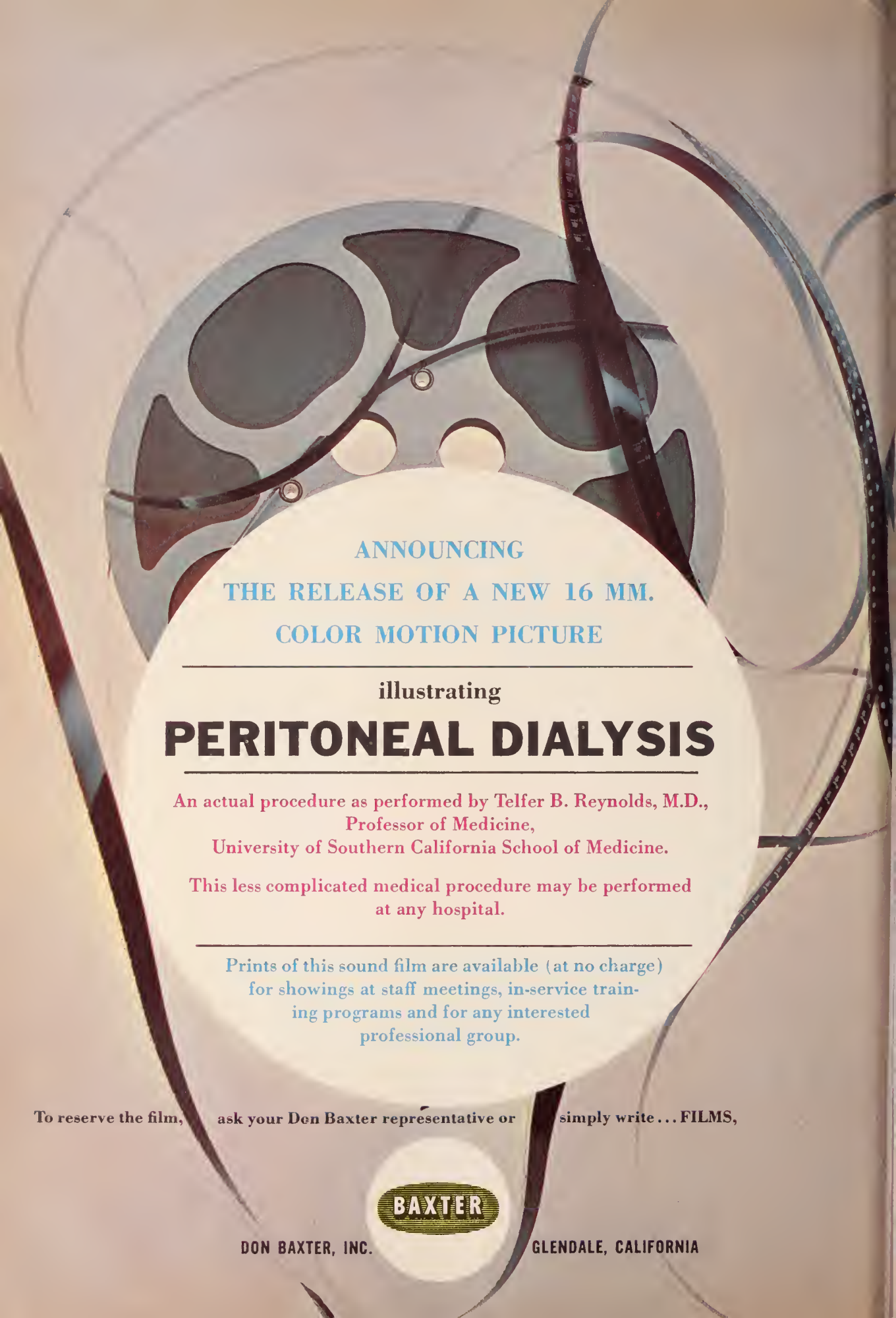
*Bicarbonate precursor



[†] Border, J., Tolbot, N., Terry, M., and Lincoln, G.: Use of Multiple Electrolyte Solution to Prevent Disturbances in Water and Electrolyte Metabolism, *Metabolism* 9:897-904 (October) 1960.

DON BAXTER, INC. • GLENDALE, CALIFORNIA





ANNOUNCING
THE RELEASE OF A NEW 16 MM.
COLOR MOTION PICTURE

illustrating
PERITONEAL DIALYSIS

An actual procedure as performed by Telfer B. Reynolds, M.D.,
Professor of Medicine,
University of Southern California School of Medicine.

This less complicated medical procedure may be performed
at any hospital.

Prints of this sound film are available (at no charge)
for showings at staff meetings, in-service training
programs and for any interested
professional group.

To reserve the film, ask your Den Baxter representative or simply write... FILMS,

BAXTER

DON BAXTER, INC.

GLENDAL, CALIFORNIA

when allergy looms large in the life of your patient...

BENADRYL provides a twofold therapeutic approach to the management of distressing symptoms of grass-pollen allergy ■ **antihistaminic action** relieves nasal congestion, sneezing, lacrimation, and pruritus ■ **antispasmodic action** affords relief of bronchial and gastrointestinal spasm.

BENADRYL Hydrochloride (diphenhydramine hydrochloride, Parke-Davis) is available in a variety of forms including: Kapseals® of 50 mg.; Capsules of 25 mg.; Emplets® (enteric-coated tablets) of 50 mg.; in aqueous solutions: 1-cc. Ampoules, 50 mg. per cc.; 10- and 30-cc. Steri-Vials,* 10 mg. per cc.; Elixir, 10 mg. per 4 cc.; 2% Ointment (water-miscible base); Kapseals of 50 mg. BENADRYL Hydrochloride with 25 mg. ephedrine sulfate. *Precautions:* Avoid subcutaneous or perivascular injection. Single parenteral dosage greater than 100 mg. should be avoided, particularly in hypertension and cardiac disease. Products containing BENADRYL should be used cautiously with hypnotics or other sedatives; if atropine-like effects are undesirable; or if the patient engages in activities requiring alertness or rapid, accurate response.

PARKE-DAVIS

61581


PARKE, DAVIS & COMPANY, Detroit 32, Michigan

BENADRYL[®]

antihistaminic-antispasmodic

cuts most allergens down to size





for
protection
before he
has that ACCIDENT

immunize with

Adult **DIP-TET**TM Alhydrox[®]

DIPHTHERIA-TETANUS TOXOIDS COMBINED



Now, with Adult Dip-Tet, you can extend the good diphtheria and tetanus programs of childhood into adolescence and adulthood, or establish routine primary immunity with far less danger of serious patient reactions. Tests show that under such usage a good antitoxic immunity will be obtained¹.

Reduction of reactivity in Adult Dip-Tet is achieved through extreme purification of the toxoids (particularly the diphtheria toxoid) which reduces their volume, and through their adsorption on Alhydrox (aluminum hydroxide) which slows absorption. Developed and used by the armed forces since 1955, this type of vaccine is specifically recommended for children over 8 years of age, teenagers and adults.

**DIPHTHERIA AND TETANUS PROTECTION FOR ALL YOUR PATIENTS
FROM 8 TO 80 WITH FAR LESS DANGER OF SERIOUS REACTIONS**

1. Graham, B. S., *et al.* J.A.M.A. 166:1586, 1958.

For complete information
see PDR page 576,
Ask Your Cutter Man
or write to Dept. 1-7F



CUTTER LABORATORIES
Berkeley, California

Transfusion Reactions

Chairman: Harry D. Ellis, M.D.

Seminar Summary: E. Eric Muirhead, M.D.

St. Vincent Hospital, Santa Fe

February 28, 1961

Case Preparations: H. R. Landmann, M.D.

Case No. 1: This 38 year old housewife was admitted to St. Vincent Hospital at 11:00 a.m. 1-12-53, with a chief complaint of vaginal bleeding. The bleeding was described as profuse and of five days duration. Examination revealed extreme pallor, blood pressure 88/40 mm Hg., and a rapid pulse. The hemoglobin level was 7.0 grams/100 ml.

At 1:00 p.m. placental tissue was removed from the uterus by curettage. Two units of blood were ordered for the immediate post-operative period. At 11:15 p.m. 500 cc. of blood were started. The patient became nauseated, vomited, and began having chills. She became cyanotic and the blood pressure was found to be 80/30 mm Hg.

Blood Discontinued

The attending physician was notified and he ordered the blood discontinued. The amount of blood given was not recorded. Oxygen was started and Coramine was given. Over the next three hours the patient improved clinically and her blood pressure rose to 100/70. The next morning catheterization yielded only 15 cc. of dark urine.

Investigation of the blood given the night before revealed that the blood taken from the blood bank had not been typed nor had it been crossmatched. The urine output for the next seven days ranged from 30 to 100 cc. each day. Fluid intake was restricted. The blood urea nitrogen rose to 55 mg. per 100 ml. On 1-21-53, the urine output improved to 400 cc. and subsequently increased to normal. The patient was discharged in good condition on 1-30-53.

Case No. 2: On 5-17-59, at age five weeks, this baby was found to have a hemoglobin of 2.0 grams. Bone marrow examination revealed an absence of nucleated red cells and normal myelopoiesis. Additional studies by Dr. Maxwell Winrobe in Salt Lake City confirmed the diagnosis of congenital red cell aplasia.

From birth to the present time, various therapeutic efforts have failed to stimulate erythropoiesis and the baby requires periodic transfusions. During the first eight months of life, no transfusion reactions were noted. On 1-23-60 and 1-24-60, temperature elevations of 102° and 103° were noted, following each of 250 ml. infusions of blood.

Generalized Urticaria

Transfusions without reaction were given on 5-14-60, 6-25-60 and 8-21-60. Following a transfusion on 11-23-60, the baby developed generalized urticaria.

On 12-22-60, the baby again developed generalized urticaria and also edema of the feet following transfusion despite prior administration of Benadryl. On 12-23-60 the second half of the unit given 12-22-60 was administered following administration of Benadryl and Medrol. The plasma was removed from this second half unit and Medrol was also given during the infusion. No reaction occurred and the hemoglobin response was good.

On 2-20-61 the baby was transfused without reaction with blood from which the plasma had been removed.

Case No. 3: This 42 year old white female patient with a previous duodenal ulcer entered the hospital with tarry stools and a moderate anemia.

A subtotal gastrectomy was performed on 9-3-54, following which the patient complained of "red vision".

Hemorrhages were found in the fundi, leading to a diagnosis of aplastic anemia on the basis of an aplastic bone marrow revealed by aspiration and operative marrow biopsy. In March of 1955, the patient was seen by Dr. Maxwell Wintrobe in Salt Lake City who confirmed the diagnosis but requested a return for further marrow study.

Severe Reaction

At this time, her ninth blood transfusion resulted in a severe febrile reaction lasting almost eight hours. Her temperature rose to 104° and she suffered severe aching and chills. Subsequent transfusions were associated with mild reactions although Benadryl was given parenterally before and after transfusion.

In April, 1955, a repeat marrow study by Dr. Maxwell Wintrobe led to a diagnosis of monocytic leukemia. An unknown number of transfusions were given at this time in Salt Lake City, following which Dr. Wintrobe suggested warming the blood to body temperature prior to transfusion because of the development of cold agglutinins in the patient. In the ensuing 14 months the patient received two to three transfusions per month with the blood given at body temperature. There were only five moderately severe febrile reactions and one reaction associated with mild urticaria. At no time did the patient become jaundiced nor was the urine discolored.

Blood Warmed

After April 1955, all transfusions were given with blood warmed to 37° C. and the tubing placed in a 37°C. water bath. In addition the patient received Benadryl 50 mgm. orally four times a day during the course of each hospitalization. In all, exclusive of blood given in Salt Lake City, the patient received 61 transfusions at this hospital.

The first eight were without reactions. The second 13 were associated with moderate to severe febrile reactions. The remaining 40 given with the blood warmed to body temperature were associated with five moderately severe febrile reactions, one reaction with mild urticaria, and twelve with mild febrile reactions. During her final two admissions, the patient received nine units of blood without reaction.

Discussion and Treatment: Richard Angle, M.D.:

In discussing the three cases presented tonight it seems logical to first outline briefly the type of transfusion reactions. It is of interest to note that Miale reports the incidence of transfusion reactions in general to be about 5 per cent and he further states that an incidence below this figure means inadequate reporting of reactions, whereas an incidence much above this figure indicates the need for a thorough review of the entire transfusion service.

Most Common Reaction

The most common reaction is the "chill-fever reaction" caused by impurities in solutions or equipment and also by agglutinins against leukocytes and platelets as well as certain components in plasma. Allergic reactions are the second most common reactions and are manifested by hives, asthma, or rarely anaphylaxis.

The hemolytic reaction is the most dangerous and results from true incompatibility of blood types. This leads to serious and sometimes fatal renal tubular necrosis.

Hemoclastic Reactions

Less common reactions are "hemoclastic" reactions due to some unidentified component of plasma, hemorrhage due to possible post-transfusion thrombocytopenia, circulatory overloading due to excess volume or excess speed resulting in cardiac failure, and citric acid intoxication in massive transfusions.

Of the cases presented tonight, Case No. 1 represents a typical hemolytic reaction due to incompatible blood. Unfortunately the amount of blood given was not recorded but it was likely not great inasmuch as complete anuria did not develop and recovery was complete in 18 days.

Case No. 2 illustrates two types of reactions. One was pyrogenic, apparently due to some plasma component or leukoagglutinin with sensitization developing over an eight month period. In addition this child had two allergic reactions manifested by urticaria. Both reactions were benefited by removal of plasma from the donor blood, and antihistamines, and cortico-steroids. Also some of the buffy coat may have been removed along with the plasma.

Case No. 3, with whom I had to contend in life, manifested pyrogenic reactions, due in large part to cold agglutinins which sometimes develop after many transfusions.

Warming the donor blood to body temperature and running the tubing through a 37° water bath materially reduced the severity of the reactions.

I suspect that this patient may also have developed leukoagglutinins which contributed some part of her reaction. In addition one mild allergic reaction was noted.

It seems, therefore that the cases illustrate the three most common transfusion reactions, hemolytic, allergic, and pyrogenic.

Treatment

Little can be said about the treatment of reactions. Obviously the best treatment is prevention. Faced with an allergic reaction, parenteral epinephrine and antihistamines are indicated and effective. The treatment of a hemolytic reaction is to stop the blood as soon as a reaction is known or suspected and to institute expectant treatment for lower nephron nephrosis.

In this regard the immediate alkalization of the patient with Bicarbonate has been advocated.

This has been said to help prevent deposition of heme pigments in the renal tubules. Since it is apparently not the pigments but renal ischemia possibly due to shock that actually produces the damage, and since it does not seem wise to load sodium into the patient with impending renal failure, I believe this treatment is highly questionable.

It would be wiser to overcome shock with compatible blood, plasma, or norepinephrine. Customary treatment of renal shutdown is then indicated.

For the pyrogenic reaction, Aspirin gr. X may shorten the course as will also calcium gluconate 10 ml. intravenously particularly when given along with Morphine Sulfate gr. 1/4.

We will have more to say about treatment as the discussion progresses.

Dr. Ellis: Our next speaker will be Dr. Eric Muirhead. Dr. Muirhead is Professor of Clinical Pathology at Wayne State University School of Medicine and is head of the Pathology Department of Woman's Hospital, Detroit, Michigan. We are very fortunate in having Dr. Muirhead here this evening.

Etiology: E. Eric Muirhead, M.D.:

We spent some time on this subject this afternoon and the speakers have covered some aspects of it already.

What I would like to do now is to single out one or two features that have to do particularly with the cases presented.

With respect to the first case, it obviously appears to be one of an incompatible transfusion reaction followed by a degree of acute renal failure. A term, somewhat more popular now, applied to this condition is "Acute Tubular Necrosis".

This case brings forth questions concerning the background of hemolysis and perhaps the relationship of hemolysis to renal failure.

In regard to hemolysis, one could suggest Mollison's definition of an incompatible transfusion as the most practical one from a clinical standpoint. He states that by an incompatible transfusion, one means that there is a shortening of the life span of the red cells due to an *in vivo* reaction between antibodies and red cells.

The antibodies most often are circulating in the recipient, and act against the donor's red cells. This same definition would apply when a high titre of antibody is transfused in plasma and the antibody of the donor reacts with the recipient's red cells.

There are several known aspects of this reaction which play on the magnitude of the destruction of red cells. I think it is fair to say that there is every indication that the rate of destruction, as well as the number of red cells destroyed, has a bearing on what happens to the individual clinically.

The rate of destruction of the red cells may be graded in terms of the adversity to the recipient, so that if the red cells of 500 cc. of blood are destroyed in a few minutes, then the recipient develops a most severe degree of abnormality, not only renal failure, but a hemorrhagic diathesis. From this, the reactions are graded downward to the most mild type of reaction.

This is why we like to separate incompatible reactions under those with hemoglobinuria and those without hemoglobinuria because those with hemoglobinuria have a more violent, a more rapid, and a substantially greater destruction of

red cells and tend to be associated with renal failure, whereas those without hemoglobinuria have a lesser degree of destruction and tend not to be associated with renal failure. In most cases, one can separate those with and those without renal failure by this means.

One would have expected the first case presented to have had hemoglobinuria and certainly hemoglobinemia in view of the subsequent development of renal failure.

Type of Antigen

Among the factors which play a part in the determination of the amount of hemolysis is included the type of antigen, though this is often not a prominent factor. Where this is particularly pertinent is in the transfusion of A1 and A2 red cells. If one transfuses a subject with type A1 red blood cells, with a blood containing anti-A antibodies, the rate of destruction of cells will be greater than if the recipient were type A2. This of course would have a bearing on whether there will be hemoglobinuria and renal failure.

The number of red cells transfused has a bearing because the numbers that are destroyed are related to the numbers that are transfused. If a lesser volume is transfused, then the volume of the destroyed red cells will be minimized, the adversity therefore minimized. Of particular importance is the titer of the antibodies involved in the reaction and the type of the antibodies. With a low titre, one tends to have lesser degree of destruction, lesser adversity and these incompatibilities may cause only a chill-fever reaction without hemoglobinuria.

The type of antibody has a bearing because certain antibodies are more violent and destructive to red cells than others. Antibodies that fix complement or depend on complement are more violently hemolytic than those that do not depend on complement, and therefore the rate of destruction may be related to the type of antibody. Hemolysins are the most destructive antibodies, however nonhemolysins may be quite destructive.

Therefore, in considering an incompatible type of transfusion, one should keep in mind the various factors that enter into the rate of destruction of the red blood cells. It is quite obvious that whatever the incompatibility was in case No. 1,

the rate of destruction was substantial and enough to be related to acute renal failure.

Renal Failure

It does not necessarily follow that a person receiving incompatible blood will develop renal failure. There are good examples, we have had some ourselves, where a substantial transfusion though incompatible, was not followed by renal failure. Most of the hemoglobinuric forms are followed by renal failure. I think that one can summarize this by saying that circulatory failure affects the development of acute tubular necrosis, and if one has peripheral circulatory failure plus hemoglobinuria, then the likelihood of acute tubular necrosis or acute renal failure will be accentuated.

In respect to the second case, I will have to curtail my comments because it is a pediatric case, and I have dealt in my experience mostly with adults. I would like to reflect upon the problem presented by this case as it would pertain to an adult.

I will increase this youngster's age to about 35, and discuss it accordingly. These aregenerative or aplastic anemias require many transfusions, and may in time be associated with splenomegaly, and eventually the question arises as to whether a shortened life span of the transfused cells bears a relationship to the splenomegaly.

Demands Lessened

The cells often do not remain in the circulation as long as expected, and whereas this has no bearing on a transfusion reaction itself, it has a bearing on the transfusion demand. It has been my impression that if one removes the spleen under these conditions, the demands for transfusion may be lessened but it appears to be lessened not because the spleen itself is doing something specifically in a hemolytic sense, but because the life span of the transfused cells are temporarily prolonged. This is by virtue of the fact that the large spleen forms a graveyard for cells which were likely subjected to a form of incompatibility. As time goes by, this effect of splenectomy may be lost.

In many of these cases, one is dealing with leukoagglutinin reactions and presumably this is true in case No. 2 because removal of plasma did

away with the reaction. However I would mention here the possibility of minor incompatibility involving red blood cells, not leukocytes, caused by a titre of antibodies or a type of antibody which does not give rise to overt hemolysis with hemoglobinuria. Such reactions can be related to red cell incompatibility.

It is difficult sometimes to elucidate this type of reaction. The explanation which incriminates red blood cell incompatibility can be offered in the case where one removes the buffy coat, does away with the reaction temporarily and then somewhere along the line the reactions reappear.

The third case is of interest because of the fact that monocytic leukemia is a type of leukemia which has been considered to be associated with leucoagglutinins to a much greater extent than other diseases and certainly to a greater extent than any other type of leukemia.

It may be said that once the diagnosis of monocytic leukemia is made, that person is most likely to develop leucoagglutinins, but it would seem likely here that the major reactions were due to a cold agglutinin, because warming the blood did away with the reaction. Indeed it is true that if the cold agglutinins are in high titre, warming of the blood may be necessary, but if the cold agglutinins are not of high titre it is usually sufficient to give the blood very slowly and depend on the warming that will ensue incident to very slow administration. In this case certainly one would see no contraindication to the use of warm blood. I would like to warn at this point that the warming process must be strictly supervised.

Prevention of Transfusion Reactions: R. C. Derbyshire, M.D.:

In any classification of blood transfusion reactions, it is easy to tabulate at least ten causes. More could be readily added to the list if some of the rare causes were included. The time limitation does not permit me to discuss the prevention of all reactions, hence I shall confine my remarks to general principles and discuss the prevention of some of the less common types of reactions.

The most obvious cause of transfusion reactions is the administration of the wrong type of blood. This glaring error is due to human failure at some stage of the transfusion. With modern laboratory methods, errors in actual typing and cross match-

ing are rare. The main mistakes which are made today are clerical and involve erroneous transcription of data and mistakes in identification of patients or their blood samples. It is questionable whether or not it will ever be possible to eliminate human errors completely but it is an ideal towards which we must continually strive.

Binder, Ginsberg and Harmel¹, in studying their experiences with 81,392 transfusions at King's County Hospital, report an incidence of hemolytic reactions of between one in 2,392 and one in 4,520 with seven deaths, a mortality of one per 11,625 transfusions.

Dutra and his colleagues² have suggested four procedures in addition to the precautions generally observed: A pretransfusion check of the patient's and donor's blood as part of the act of bedside identification, examination of a direct smear for bacterial contamination of donor blood, special nursing care during the transfusion and sampling of the patient's blood after transfusion for evidence of hemolysis. Of major importance is the first suggestion which is worthy of detailed presentation. After the vein of the patient has been punctured, 5 ml. of blood is withdrawn and then saline but not blood is started. Five ml. of blood is then withdrawn from the bottle by puncturing the diaphragm. Rematching is carried out on a special card coated with dried collodion.

After the final check has been made the blood on the card is allowed to dry and is covered with collodion thus making a permanent record. The procedure can be carried out at the bedside. Not until after the bedside check has been made is the blood started.

It is interesting to note that in St. Vincent's as well as in many other hospitals an average of four people handle the blood from the time it is withdrawn from the donor until it is administered to the patient. At night or in cases of emergency this number can readily be increased to six or more.

For this reason it is essential that the person who finally administers the blood be one with a well developed sense of responsibility and one who is familiar with all of the precautions which must be taken. This is particularly true in cases of emergency where large amounts of blood are given over a short period of time. The sense of drama

accompanying multiple transfusions for massive hemorrhage cannot force us to relax our vigilance for one moment.

Best Method

In view of the above it is obvious that the best method for preventing reactions is not to give transfusions. But transfusions cannot be withheld when indicated. In the past two years many articles have appeared in the literature condemning the practice of giving a single pint of blood. Many writers claim that this is never indicated.

According to Moore³, since 1917 the risk of a hemolytic reaction has decreased from one in 541 to one in 4520. The mortality rate during this period has fallen from 58 per cent to 38 per cent. But he further points out that for every known hemolytic reaction there are at least four times as many cases of sensitization to specific antibodies which may cause serious trouble during the next transfusion or the next pregnancy. The risk of an incompatible transfusion, according to this reasoning is close to one in 60.

Binder, Ginsberg and Harmel found that 53 per cent of their patients who had hemolytic reactions received transfusions for questionable reasons. They also stated that six out of seven deaths in their study were associated with transfusions of questionable necessity. Myers⁴ was prompted by a recent study to caption the problem, "Transfusion by the Gill." He believes that medical staffs should seriously review the indications for transfusion and to try to reduce the number given for doubtful reasons.

In 1956 five million units of blood were transfused in 78 per cent of the hospitals in the United States⁵. If, as several writers believe, at least half were unnecessary, what an enormous waste of blood and manpower, not to mention the risk to the unhappy recipients. On the other hand it cannot be stated dogmatically that one should never administer a single pint of blood.

Nearly everyone is familiar with the patient who is in apparently mild shock, who does not respond to intravenous dextrose, dextran or other measures. Often he is then given a single pint of blood and the shock is promptly relieved. The answer to this situation may be that we are not making sufficient use of the various fractions of blood. The use of plasma fell into disrepute be-

cause of the risk of transmitting homologous serum hepatitis. We tend to forget that it has been proven that the storage of plasma at room temperature for six months will eliminate this danger. Plasma, as well as other blood fractions is an excellent adjunct in the treatment of shock and its value in this hospital, at least, has been ignored during the past ten years.

Another obvious but frequently overlooked cause of transfusion reaction is over transfusion. In recent years so much emphasis has been placed upon the quantitative replacement of blood lost at operation that many people forget that the average young adult can lose up to 15 per cent of his blood volume without serious consequences.

Measurement of Blood Loss

Le Veen, at the Clinical Congress of the American College of Surgeons in 1959 demonstrated his device for the immediate, accurate and continuous measurement of blood loss during operations. This was an important contribution but, possibly due to the high cost of the apparatus, has been insufficiently used. It is particularly valuable in long and formidable operations accompanied by great loss of blood. It eliminates guesswork, permitting adequate blood replacement and prevents the dangers of over transfusion.

Costello⁶ has recently described a shock-like state due to over transfusion and reports two cases in which it occurred. The first patient died because the condition was not recognized and additional blood was given to a patient who already had been given too much.

In the second case the error was promptly recognized and the shock controlled by the withdrawal of 550 ml. of blood from the patient. It must have required courage to bleed a patient who was already in shock but it was a reasonable procedure if there was exact knowledge concerning the amount of blood lost during the operation. This is indeed an unusual sign of excessive transfusion. The usual picture is that of circulatory failure accompanied by pulmonary edema. To prevent such a reaction, particularly in a patient with cardiac disease, suspended erythrocytes should be given instead of whole blood.

Another recently recognized cause of transfusion reaction is the administration of excessive

amounts of potassium present in stored blood. Le Veen⁷ found that in bank blood 40 per cent of the samples contained more than 23 m. eq. per litre of potassium, five times the physiological level. He concluded that massive blood transfusion underlay cardiac arrest in 68 out of 157 cases. He advanced the theory that the critical factor is the ratio of potassium to calcium in the venous return to the heart.

If this ratio becomes excessively high, cardiac arrest will occur. The prevention is frequent administration of calcium in massive transfusions. Schlechter, Nearon and Gibbon⁸ have described an ingenious method for removing both potassium and ammonium from bank blood by passing it through an ion exchange resin column. Removal of the ammonium would of course tend to minimize reactions in patients with advanced liver damage.

Shock

In many cases of shock due to massive blood loss the administration of blood by gravity is insufficient. For this reason many transfusions are given under pressure at a rapid rate. Many special devices have been invented for this purpose. It has been pointed out that in almost all of these devices there is a real danger of air embolism and several deaths have been reported from this. This should be an exaggerated hazard in view of the fact that almost all transfusions are now administered through transparent plastic tubing through which air bubbles can easily be seen. To prevent air embolism it is essential to watch the tubing carefully and to be thoroughly familiar with the apparatus employed.

Citric acid intoxication is still another cause of transfusion reactions. A high blood citric acid concentration may occur when multiple transfusions are given to patients with liver disease or biliary obstruction. An increased blood citric acid concentration and decreased blood calcium can also occur if about 500 ml. of blood is given in 15 minutes to patients without liver disease. The ill effects are supposed to be due to hypocalcemia and the prevention is to exercise caution in administering citrated blood to patients with liver disease. Instead such patients should be given suspensions of erythrocytes.

The problem of isoimmunization should also be mentioned. According to David and Stern⁹ the danger of isoimmunization increases with the number of transfusions and they designate the recipients of multiple transfusions and multiparous women as "dangerous recipients". It is estimated that one to two per cent of patients will become sensitized as the result of a transfusion. This is particularly important in women in the child bearing age. If O Rh positive blood is given in an emergency it must be remembered that 17 per cent of the white U. S. population is susceptible to sensitization to the factor which is always present in such blood. To prevent such sensitization O Rh positive blood should not be given unless its use is justified by a grave emergency.

Conclusion

In conclusion, I cannot summarize the problem of the prevention of blood transfusion reactions better than by quoting Crosby who said, "Thoughtless prescription of blood transfusion is playing Russian roulette with bottles of blood instead of a revolver; while the odds are in the physician's favor that nothing will go wrong, the patient takes the risk."

Seminar Summary: Dr. Muirhead

I think a great deal of food for thought has been offered here and I'm sure you have quite a few questions as a consequence of these talks. I would like to minimize my summary so as to allow time for discussion.

I think it is fair to say that the three cases do emphasize some prominent adversities which may follow in the wake of transfusions. The most prominent one emphasized by the first case was that of acute renal failure.

The other two cases emphasize more the problem of less severe reactions occurring in individuals requiring multiple transfusions.

In the course of considering these cases, Dr. Angle has reviewed the major causes of reaction and pointed out something about the incidence of reactions.

A major problem of transfusion reaction may be circulatory and in this connection Dr. Derbyshire has mentioned the use of concentrated red cells as a means of minimizing excess volume.

Another reaction which has been emphasized is the allergic reaction. I am reminded here of another comment in respect to the incidence of allergic reactions. A famous physician once said that if a transfusion service reports less than one per cent allergic reactions, then they are not checking their allergic reactions closely. One does expect a certain number of allergic reactions. Most of these are of a transient nature, but there is always the possibility of something more serious, such as an acute asthmatic attack, angioneurotic edema, or an anaphylaxis-like state.

Dr. Angle mentioned the causes of chill-fever reactions with emphasis on bacterial contamination, leukoagglutinins, and red cell incompatibility and pointed out that acute tubular necrosis or acute renal failure may be associated with an incompatible transfusion and hemoglobinuria, but that the primary background for this may be peripheral circulatory failure which usually accompanies the use of incompatible blood under these circumstances.

Alkalizing Agent

Certainly, one would agree that the use of an alkalizing agent is of no value here. During the war, alkalizing agents were used, such as sodium bicarbonate, in attempts to assist or prevent the kidney from undergoing injury and it was demonstrated beyond any doubt that in the first place the urine did not usually become alkaline and if it did so the patient by that time was puffed up like a balloon from salt and water retention. So this was of little value. The main point here would be to be aware of the possibility of acute renal failure, to identify it early, and to institute proper approach to management.

The first case was managed properly and recovery occurred in 18 days. Other points brought out include the factor of leukoagglutinins as a cause of reaction and it would seem that the third case represents an unusual instance where cold agglutinins were of such high titre that warming of the blood prevented the reaction. One always warns in speaking of warming blood that this

should be done very carefully so as not to overheat the blood.

The last speaker covered his particular area in a very thorough manner, and I would not wish to attempt to summarize this, except to comment with respect to the percentage of unnecessary transfusions. This is something that we must always keep before us. Obviously there are unnecessary transfusions. These are not premeditatedly unnecessary transfusions always, but some of these perhaps could be so categorized.

The question of mortality of transfusions is a very difficult one, but it would follow that there is such a thing as a mortality from transfusions and one should make certain that a transfusion is indicated and be aware of the contra-indications as well as the potential complications which may result from a transfusion. In assuming this attitude, one is not assuming an anti-transfusion attitude because there is no question that the proper use of whole blood and components of whole blood has been one of the major advancements in patient care in modern times.

Discussion:

Dr. Brian Moynahan: Is there anything that one can do to treat or prevent transfusion hemosiderosis?

Dr. Muirhead: I assume that you accept the proposition that transfusion siderosis is injurious to the patient. I do accept this, but I cannot say that everyone agrees, because there are those who are uncertain that iron load is particularly injurious.

I do not know that there is anything dramatic that one can do about this problem. One point that can be made is that the intake of iron must be minimized and certainly no therapeutic iron should be given by mouth. Once the iron is in the tissue I know of no way to get it out except by phlebotomy and of course these patients are not eligible for phlebotomy.

Dr. Derbyshire: I have two questions Dr. Muirhead. I wonder if you would care to discuss your criteria for hemodialysis following transfusion reactions—how many other things do you try before you dialyze the patient, or in your institution are you very prompt to employ hemodialysis? Number two, there is something that has been troubl-

ing me for some time and that is the legal aspects and whether there have been any lawsuits resulting from dogmatic articles about one unit transfusions, and if not do you predict there will be such suits?

Dr. Muirhead: Well, I hesitate to comment on either of these questions. I have gotten away from personal experience with hemodialysis. Where I am working now it is the responsibility of other people and I am not as involved as previously. I would think however, that one would be on firm ground—and I think this is the Boston position—that hemodialysis should be individualized and that generalizations are at best only approximations and attempts to give specific criteria for general application would be somewhat risky.

One of the most prominent indications for dialysis of course, is potassium intoxication, but there are even variables with this criterion. One might give a level of say 8 meq/l of potassium as an indication for dialysis, but even this could be erroneous in that this level may have been very slowly reached and one may wish to try the use of an exchange resin before going to dialysis; on the other hand if the potassium elevation is occurring rapidly, but is still below 8 meq/l, this would still be a reasonable indication for dialysis.

If the level goes from near normal to 8 meq/l rapidly, you would consider dialysis more strongly than if it had gradually reached a level of 8 meq/l. Another factor here would be the degree of tissue injury associated with the rate of potassium elevation. There are other considerations in hemodialysis, and some of these include instances where the renal failure has major associated complications. Two major complications that are of major importance are, widespread traumatic tissue injury and sepsis.

Anyone who has acute renal failure associated with widespread tissue injury and in addition develops sepsis, is or becomes a candidate for hemodialysis, because the highest mortality rate is in this area. The real question is how long one should wait for hemodialysis. There are those who advocate much earlier use of hemodialysis than originally proposed; and some advocate short periods of dialysis through the course of the renal

failure, particularly where there is sepsis and widespread tissue injury.

I do not know anything about legal matters and I find that every time I enter the courtroom, I know less and less, so I don't know what the answer to your second question is. I think that we have a right to become concerned over so much furor over the one pint transfusion, because we all realize that there are indications for a one pint transfusion. We mentioned such a case this afternoon, in a patient with angina who needed one pint of blood periodically to alleviate his symptoms. As a matter of fact one could argue under these conditions that two pints might be contraindicated.

Dr. Landmann: I would like to ask Dr. Muirhead how one might recognize early a transfusion reaction due to bacterially contaminated blood?

Dr. Muirhead: Before commenting on that, I would like to mention that the frequency of contamination of blood is not clearly known. There are studies which indicate a contamination rate of 2-3 per cent, but there are also studies which would indicate a contamination rate of 0.1 per cent. Fortunately whether one is dealing with a .1 per cent or a 2-3 per cent rate, these contaminants are mostly gram positive contaminants and other organisms that are relatively inconsequential as far as a reaction is concerned. They may cause a little elevation in temperature, but usually not a major chill fever reaction or shock.

Our main concern has to do with contamination by gram negative organisms which are endotoxin producers, and surely the rate of contamination by these organisms is quite small.

If one does identify a gram negative contaminant then this means a major break in the blood bank system, and I think it is right to say that if such a transfusion contaminant is identified, then the entire transfusion service should be quarantined immediately because the chances are that there will be subsequent reactions shortly, and these are of serious nature.

The most certain way to identify this type of contamination, is of course to see the organisms, and this would be by means of a smear of the blood and by culture of the blood. The reactions

which are overwhelming in this category always, so far as I know, yield positive smears. By overwhelming, I mean lethal reactions. I am not aware of this being otherwise. But we can have reactions without a positive smear, but with a positive culture so that if a patient has a chill-fever reaction we do make a smear of the blood and we culture the blood.

If a patient has a chill-fever reaction and then goes into shock, particularly into the "red" type of shock—in other words if the peripheral capillaries are dilated, the skin hot and dry, and the conjunctiva extremely congested—and if the person becomes disoriented, and the blood pressure drops then we would smear the blood, culture the blood, and culture the patient.

The chance of picking up a positive blood culture in the patient is not very good and the opportunity exists only for a very short period of time, maybe only minutes, but if a positive blood culture in the patient is obtained it is a strong indication of bacterial contamination in the transfused unit.

If the smear of the blood given is positive and if the reaction is one of typical red type of shock, then we would quarantine the blood transfusion service immediately.

In regard to the patient, one would proceed to treat the patient vigorously with antibiotics and with steroid therapy. In addition to these two means, one would of course make sure that the airway is clear and that bronchial secretions do not accumulate. The use of steroids is based entirely on experimental observation. Rabbits can be partly to completely protected from endotoxin by the concomitant use of steroids, but other than this, there is no indication that steroids do something specific when used.

Dr. Edward O. Goodrich, Jr.: Would you advocate routinely smearing a sample of blood prior to transfusion?

Dr. Muirhead: At one time we encountered a series of contaminated blood involving six or seven units given between the time the first unit was given and the information came to us. We quarantined the service. Only one was fatal, fortunately.

In these cases the contaminant was in the antiseptic used on the skin. We had changed from iodine to this preparation. I doubt that we will ever change from iodine again. As a consequence of this event, our microbiology people insisted that the services must smear every bottle of blood before it be given. This simply did not work. The people who were administering the transfusions just would not do this, and we did not feel we could follow each unit to the patient to make sure that a smear was made. I think it would be a good practice if you could make it somehow practical, but how this can be done I do not know.

Dr. Goodrich: Dr. Muirhead would you tell us at what point you would begin transfusions in a patient undergoing surgery. What amount of blood loss do you feel indicates beginning replacement?

Dr. Muirhead: We try to maintain certain criteria for the use of blood when a subject has lost whole blood. There is no denying that if you lose blood and you can replace precisely the amount that was lost, homeostasis is maintained. This, of course would apply to the blood donor too. The blood donor loses a pint and insofar as anybody knows it doesn't really do very much harm to the circulation. A person can lose between a pint and two pints and be a little worse off than the blood donor because he is more susceptible to circulatory collapse, particularly under exertion.

Here the approach would be primarily one of securing rest and avoiding exertion and under these conditions a normal person may lose two pints of blood and recover without complication. It takes 36 to 48 hours or more for the patient to replenish his loss in volume, and one can hasten this with the administration of plasma.

It is after the loss of more than a liter of blood that difficulties appear, particularly after a liter and a half, and here one is dealing with acute blood loss, and one is dealing with the situation where replacement begins to be demanded. After the loss of two liters, in many people, replacement definitely is demanded. This doesn't mean that everybody will succumb to the loss of two liters of blood, but if, after the loss of a liter and a half of blood the signs of shock begin to appear—such

signs as a drop of blood pressure, elevation of pulse, cold clammy skin, etc.—this would be clear indication for transfusion, particularly if, in the recumbant position the signs of shock remain.

Now, if you don't have whole blood you can give plasma or a plasma substitute but whole blood is the fluid that is indicated. From here to more severe shock definitely whole blood is indicated. How much blood to give would depend on the clinical state of the person. I don't know of any other way of doing this, you cannot determine the blood volume that quickly. If the blood pressure goes up, sweating disappears, and the patient becomes warm, among other things these are indications that enough blood has been given.

Dr. Goodrich: My question was more, when would you start to replace blood in the patient losing blood during surgery? Would you start at 500cc or 750cc or 1000cc.

Dr. Muirhead: I would start at between 500 and 1000 ml. in a normal subject.

Dr. Angle: I have two questions. One, is there a means for correction of depression of erythropoiesis following the administration of large amounts of blood—this so called “post transfusion” anemia; two, is there any greater danger of reaction from blood used to charge an artificial kidney for dialysis of acute renal failure due to an incompatible blood transfusion than in renal failure due to other causes.

Dr. Muirhead: I would like to answer your second question first. I think you may not compound the evil, in fact you may lessen it if the titer of antibodies to begin with was such that it affected a major hemolysis with hemoglobinuria and renal failure. The primary concern relates to identification of the antibody causing the hemolysis. If this can be done with confidence and if compatible blood can be procured with confidence, then one can proceed with confidence. I would think that this would depend primarily on the state of the antibodies that caused the reaction. Since 50 per cent of reactions are due to ABO incompatibility, the likelihood of getting around the antibodies is frequently good. I think that this would demand as much as possible knowledge of the cause of the incompatibility.

Now to the question concerning depressed erythropoiesis, this comes up particularly where one is dealing with further suppression of the bone marrow which is suppressed already, as in cases of hypoplastic marrow. It would seem that there is support for the proposition that elevation of red cell mass under circumstances where the marrow is capable of producing red cells normally will decrease red cell production, but whether this is a major contraindication of transfusions under most conditions where transfusions are indicated, I don't know.

If you feel that you should support an individual with transfusions, you raise the question of whether you are in a therapeutic paradox; does the therapy do to the subject that which you don't want done, namely to decrease the marrow output. This may be the case in chronic refractory hemolytic states, in hypoplastic states, in sickle cell anemia. From a practical standpoint I rather think that one can afford to overlook this objection because were the marrow adequate, the need for the transfusion would not have arisen.

Dr. Ellis: I would like to thank our speakers tonight for their excellent presentations and to express the appreciation of the Medical Staff to Dr. Muirhead for coming here to conduct the seminar. Next month our subject will be “Problems of Early Carcinoma of the Cervix.”

References: (Dr. Derbyshire)

1. Binder, Lee S., Ginsberg, Victor, and Harmel, Merel H., A Six Year Study of Incompatible Blood Transfusions. *Surg. Gyn. and Obst.*, 1959, 108:19-34.
2. Dutra, Frank R., Kniseley, Ralph M., Feichtmeir, Thomas V., A Program to Diminish the Hazards of Blood Transfusion. *Postgrad. Med.*, 1960, 28:3, A-36-46.
3. Moore, B. P. L., How Many Blood Transfusions are Really Necessary? *Canad. M.A.J.* May 15, 1959.
4. Myers, Robert S., Transfusions by the Gill. *Bull. Am. Col. of Surg.*, 1961, 46:37.
5. Report of Project Advisory Committee of the Joint Calendar Year 1956. *J.A.M.A.*, 165:1135-1141, 1957.
6. Costello, Cyril J., Overtransfusion in the Operating Room. *A.M.A. Arch. Surg.*, 80:843, 1960.
7. Le Veen, H. H., Transfused Blood and Cardiac Arrest. *Lancet* 7144 II for 1960, July 30, 1960.
8. Schlechter, C. D., Nearon, T. F., and Gibbon, J. H., The Removal of Excessive Potassium and Ammonium from Bank Blood Prior to Transfusion. *Surg. Gyn. and Obst.*, 108:1, Jan. 1959.
9. Davidsohn, I., Stern, K., Blood Transfusion Reactions: Their Causes and Identification. *Med. Clin. America* 44:1, 281, January 1960.
10. Crosby, W. H., *Blood*, 13:1198, 1958.

A Review of Infant Mortality in New Mexico and the Bordering Mexican States

(Final Section)*

ROY F. GODDARD, M.D., *Albuquerque*

STANLEY J. LELAND, M. D. *Santa Fe*

JOHN C. COBB, M. D., *Baltimore*

Research Programs in Infant Mortality

During the past eight years the Pediatric Research Department of the Lovelace Foundation for Medical Education and Research in Albuquerque, N.M., has conducted several studies pertinent to the problems of infant mortality and morbidity. Among these programs have been studies on the mechanics of breathing in the newborn,¹⁷ the physical forces concerned with expansion of the newborn's lungs, the clinico-physiopathological relationships of broncho-pulmonary conditions in newborns and infants,¹⁸ and studies in resuscitation, including the development of an infant hand resuscitator.¹⁹

Other physicians in the city have studied the effect of various aerosols on the progress of premature infants, and the influence of position on the production or formation of hyaline membrane disease.²⁰

In the beginning of our studies in September 1952, one of the first steps was to organize an infant resuscitation team, clinically composed of pediatricians, obstetricians and anesthesiologists. The investigative team included in addition a roentgenologist, pathologist, respiratory physiolo-

gist, engineers, our Medical Illustration Department, otolaryngologist, neurologist, surgeons, and others which might be called upon for ancillary services.²¹

Such a team has proved itself many times over as clinically the obstetrician is able to inform the pediatrician of any difficulties expected in the delivery room and to ask him to be present at the deliveries of premature infants, difficult breach deliveries, Rh babies that he might expect trouble with, and Cæsarian sections.

These two frequently then discuss with the anesthesiologist the type of anesthesia to be given.

From studies of the mechanics of breathing and studies of the physical forces concerned with expansion of the newborn lung, we were then able to proceed with the development of a small, compact, and physically and financially available, infant hand resuscitator, which closely duplicates the flow and pressure patterns of the premature and full-term infant.

The GBL (Goddard-Bennett-Lovelace) Infant Hand Resuscitator is simply a controlled mouth-to-mouth type of resuscitation, with control of the pressure, the time interval over which this pressure

*Final of three sections; published in April, May, and June 1961 issues of SOUTHWESTERN MEDICINE.

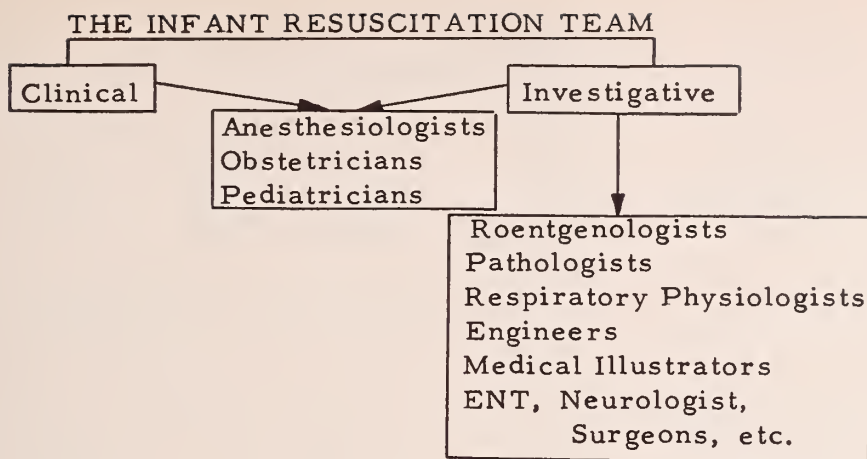


Figure 15.

is given, and the volume that is delivered. Resuscitation can be given with oxygen or with room air.

Two Maneuvers

Two simple maneuvers are required; (1) establishing a tight seal of the mask over the infant's mouth and nose, and (2) squeezing the rubber bulb to deliver the pressure set on the dial. This method of resuscitation has been fully reported on elsewhere.¹⁹

This resuscitator was released to various investigative hospitals throughout the country for further study. In figure 17 you see the results of a five month study done at the Los Angeles County General Hospital, in Los Angeles, California, where 5,729 infants were born during this five month period.

Two Groups

Infants were divided into a control series, which received the usual method of resuscitation, and the GBL series which received resuscitation with the Infant Hand Resuscitator. The conclusions of the study were that the use of the GBL Resuscitator showed a significant improvement in survival of premature infants weighing more than 1,000 grams; with 34 per cent dying among the controls and 13 per cent in the experimental group. Corresponding figures for full-term infants were 11 and 14 per cent respectively.²²

Similar studies now being conducted in several hospitals in the United States and in Sweden will

undoubtedly improve the infant mortality. Several meetings each year are held to discuss research on problems of the newborn, and to standardize criteria for the necessity for resuscitation and in the evaluation of infants. From such studies we expect the United States, as a whole, and many individual states and hospitals to improve their infant mortality.

Premature Nursery Center

As a collaborative effort in the State of New Mexico it is hoped that a Premature Nursery Center will be forthcoming within the near future. Such a planned center will start with an 18 incu-

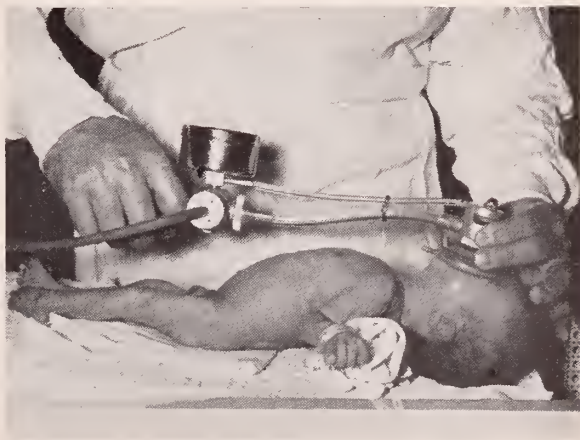


Figure 16.

Clinical Use of the GBL Infant Hand Resuscitator.

STUDIES WITH GBL RESUSCITATOR
Los Angeles County General Hospital
5 Months Study Period

	<u>Premie</u>	<u>Full Term</u>	<u>Total</u>	<u>% of Total</u>
Live Births				
Control	281	2806	3087	54%
GBL Series	246	2396	2642	46%
	<u>527 (9.2%)</u>	<u>5202</u>	<u>5729</u>	
Neonatal Deaths	24*	17	41	0.72%
		Resuscitated Newborns	(7.2% per 1000 live births)	
A. Control				
No. Resuscit.	41	82	123	
Mortality	14	9	23	19% of Resuscit.
% Mortality	34%	11%		
B. GBL Series				
No. Resuscit.	24	59	83	
Mortality	3	8	11	13% of Resuscit.
% Mortality	13%	14%		

* Includes 7 previable infants

(Modified from Wilson and Roscoe, Calif. Med., 88: April 1958)

Figure 17.

bator capacity and will provide facilities for the hospital in which it is placed, plus facilities for infants referred by the State Health Department, the Indian Service, and other hospitals throughout the State.

Programs would include not only the actual care of premature infants, but research projects and annual sessions on premature care for the physicians and nurses of the State of New Mexico.

Summary and Recommendations

In summary, statistics have been presented on the birth rates, and neonatal mortality rates, in the United States, New Mexico, and Mexico, with comparative statistics for the State of New Mexico by County, and by races. Some of the cultural-social-economic influences in the State of New Mexico have been discussed, as have the causes of infant deaths in New Mexico.

Programs which have contributed to lowering infant mortality in New Mexico on a State-wide basis have been outlined, including the work of the New Mexico Medical Society's Maternal Infant Mortality Committee, programs of the New Mexi-

co Public Health Department, and programs of the Division of Indian Health of the United States Public Health Service.

Existing local programs and individual hospital programs have been mentioned, together with their influence on the over-all mortality and morbidity rates. A brief mention of research studies and the part they play in this whole program has been made.

We recommend the serious consideration of the following programs.

1. Continued studies of the statistics of birth rates, neonatal mortality rates and comparative studies of countries, states, counties, and hospitals in individual cities. Efforts should be made toward more accurate analysis of the causes of death.
2. The working together of medical societies and health agencies.
3. Hospital programs, both singly and jointly.
4. Symposia and educational program, sponsored both by medical societies and various health agencies, on international, national, state and local levels.
5. Complete care, specialized when necessary, and the insistence on complete

autopsies. 6. Interest of lay groups in the problem, and encouragement of their participation in programs.

Acknowledgements

We should like to express our gratitude to the members of our staffs who have so graciously given of their time in helping us compile and edit these statistics, to the Medical Record Librarians of the Los Alamos Medical Center and the Albuquerque Hospitals, to the Maternal and Infant Mortality Committee and the public Health Committee of the New Mexico Medical Society, and to the following individuals who have assisted us in the preparation of this paper: Dr. Jose Alvarez Amezcua, Minister of Health and Welfare of Mexico; Dr. Miguel E. Bustamante, Subsecretario de Salubridad and Dr. M. A. Bravo Becherelle of Escuela de Salubridad E Instituto de Salubridad Y Enfermedades Tropicales, Mexico City; Ruth Puffer, Chief Epidemiology and Statistics Section of Pan American Sanitary Bureau of the World Health Organization; Drs. Alton Pruitt, David Post, Randolph Seligman, Alvina Loomer, and Howard Wilson of the Maternal and Infant Mortality Committee; Drs. Jack Redman and William Woodard, and especially to Mrs. Audrey Immel of the Department of Vital Statistics of the New Mexico Public Health Department.

Appendix*

1. New Mexico Medical Society Infant Mortality Study-data sheet.

2. Division of Indian Health, USPH- Phoenix branch-research sheet on Study of Fetal, Neonatal and Infant Mortality.

3. NB-3, Newborn Record, obstetrical and nursery data sheet, Bataan Memorial Methodist Hospital.

4. NB-4, Newborn record, premature weight chart, Bataan Memorial Methodist Hospital.

References

1. Goddard, R. F.: "Respiratory Emergencies of the Newborn," *Rocky Mountain Medical Journal*. 53: 708-720, 1956.

*Charts available on request from New Mexico Department of Public Health, Maternal and Child Health Division, Santa Fe.

2. "Natality, General Mortality, Infant and Neonatal Mortality," *Epidemiological and Vital Statistics Report of WHO*: 12: No. 9, pp. 315-317, 1959.
3. "Natalidad y Mortalidad Infantil En La Frontera De Mexico Con Estados Unidos," *Direccion General de Estadistica*: Personal communication from Bustamante, Miguel, Subsecretaria de Salubridad, Mexico, D. F.
4. "Infant Mortality: U. S. and Each State, and Alaska, Hawaii, Puerto Rico and the Virgin Islands, 1957," *Vital Statistics—Special Reports, National Summaries*: 50: No. 14, pp. 333-349, 1959.
5. Annual Summary, Vital Statistics Report, US Dept. HEW, Vol. 8, No. 13, April 25, 1963.
6. Monthly Report of New Mexico, Division of Vital Statistics, New Mexico Department of Public Health, April, 1960.
7. Goddard, R. F., et. al. Chairman, "The Epidemiology of Infant Mortality," Course on Principles of Epidemiology, co-sponsored by New Mexico Department of Public Health and CDC Training Branch, U. S. Department of Health, Education and Welfare, January 17, 1957, Albuquerque, New Mexico.
8. Business Information Series, Bureau of Business Research, University of New Mexico, N. 22: 1953.
9. Monthly Report of New Mexico, Division of Vital Statistics, New Mexico Department of Public Health, November 1959.
10. Bravo-Becherelle, M. A., "Causas Principales de Mortalidad en Mexico, Segun Edad Y Sexo; Cuadra Numerada 4, p. 191, "Causas Principales de Mortalidad en Menores De un Ano Republica Mexicana, 1955-1957" *Revista del Instituto de salubridad y enfermedades tropicales*, (Mexico) 19: No. 2, 1959.
11. Kohl, Schuyler G., "Community Obstetrical Study — an Evaluation of Obstetrical and Newborn Services of the Hospitals in Hartford, Connecticut," *Progress Report*, May, 1960. (Presented at the 78th Annual Meeting of New Mexico Medical Society, May 11, 1960).
12. Goddard, R. F. et. al. (Chairman, Maternal-Infant Mortality Committee, Bataan Memorial Methodist Hospital, Albuquerque, New Mexico), "An Approach to the Problem of Neonatal Mortality," an exhibit presented at the 74th Annual Meeting of the New Mexico Medical Society, May 1956, and to the Sixth International Anesthesia Research Society Congress, April 1957.
13. Post, David B., et. al. (Chairman Maternal-Infant Mortality Committee, New Mexico Medical Society), "The Problem of Infant Diarrhea in New Mexico," Presented at the 78th Annual Meeting of the New Mexico Medical Society, May 1960.
14. Deuschle, Kurt: Dept. of Preventive Medicine, Cornell Medical School. Personal Communication.
15. Lull, Lynn J.: Chief Research Branch, Phoenix Area Office, Division of Indian Health, United States Public Health Service. Personal communication.
16. Apgar, V.: "A Proposal for a New Method of Evaluation of the Newborn Infant," *Current Researches in Anesthesiology and Analgesia*, 32: 260-267, 1953.
17. Luft, U. C., R. F. Goddard, and E. H. Roorbach: "Compliance, Resistance and the Work of Breathing in Newborn Infants." (In preparation for publication).
18. Goddard, R. F., "Bronchopulmonary Diseases in Infants and Children," *Clinical Cardiopulmonary Physiology*, Grune & Stratton, September, 1960, Chapter 47.
19. Goddard, R. F., Clark, J., and Bennett, V. R.: "Newer Concepts of Infant Resuscitation and Positive Pressure Therapy in Pediatrics," *American Journal of Diseases of Children*. 89: 70-97, 1955.
20. Redman, J. C.: "The Role of Newborn Position in the Development of Pulmonary Hyaline Membrane," *Southwestern Medicine*, 38: 763-764, 1957.
21. Goddard, R. F.: "The Role of an Infant Resuscitation Team in Investigative Studies of Respiratory Onset at Birth," *Current Researches in Anesthesiology and Analgesia*, 34: 1-25, 1955.
22. Wilson, M. G., and Roscoe, S. N.: "Resuscitation of Newborn Premature Infants. A Clinical Study of the Use of Positive Pressure Resuscitation," *California Medical Journal*, 88: 312-315, 1958.

The Postalcoholic Syndrome

Symptomatic Control with Hydroxyzine*

HAROLD I. GOLDMAN, M.D.,** *Denver*

Confronted with an estimated five million problem drinkers¹ in this country, physicians are coming to recognize the gravity of alcoholism as a national health problem. Even if only 10 to 15 per cent of these persons are ever arrested for conspicuous drunkenness, the public cost is great. Because private physicians and hospitals have been understandably reluctant in the past to accept alcoholic patients for treatment, problem drinkers have been largely relegated for care to law enforcement agencies and public institutions. Religious groups and social agencies have also admirably assumed responsibility for managing alcoholics.

Pharmaceutical advances of the last decade have provided drugs both useful and safe for managing acute alcoholic episodes and for use in long-term treatment. As a police surgeon and in private practice, the present writer has reported²⁻⁵ on almost two thousand patients with postalcoholic syndrome treated with various of these newer compounds. Encouraging results and reduced risks with these medicinals should greatly encourage private practitioners and institutions to accept more willingly for treatment a substantial share of alcoholic patients now in public hands.

In the treatment of the postalcoholic syndrome, the present paper will report a clinical trial and results with hydroxyzine.

Procedure and Form of the Study:

Patients were public charges, prisoners arrested for conspicuous drunkenness. All were seen in the infirmary of the City and County of Denver Jail. Single or multiple symptoms of the postalcoholic syndrome were present—nausea, tremors, hallucinations, boisterousness.

Prompt, safe control of alcoholic withdrawal symptoms was the only objective of police-medical treatment. Patients could not be released or brought before an examining magistrate until they were sufficiently controlled to comprehend the legal proceedings. If symptoms of acute delirium tremens were exhibited, patients were admitted to hospital for definitive treatment and, as such, were excluded from this clinical trial.

Included in the study were 326 patients ranging in age from 19 to 76 years. There were 212 males and 114 females. Hydroxyzine tablets were given, 200 mg. q. 4 h. If alleviation of symptoms of the postalcoholic syndrome did not occur with hydroxyzine within 16 hours (following three doses), the drug was withdrawn and considered ineffective. Prisoners were treated from 12 to 24 hours, and occasionally, somewhat longer.

*Atarax, Product of J. B. Roerig and Company, Div., Chas. Pfizer & Co., Inc.

**Police Surgeon, City and County of Denver, Colorado.

Police officers cooperated in the study by acting as observers and evaluators. These policemen, charged with thousands of alcoholic prisoners in the course of a year, are shrewd, perceptive judges of the extrinsic manifestations of the post-alcoholic syndrome. A simple check sheet was prepared for yes and no answers to the following questions after each dose of hydroxyzine:

Did the prisoner's nausea improve? Did the prisoner's shakes improve? Was the prisoner able to be presented to the judge or released? Did the prisoner improve in general?

Corroboration of evaluations was possible in some cases, usually those in which the drug failed, causing the prisoner to be held over. Prisoners not given hydroxyzine, or given some other medication, served as controls. Long-standing clinical and police experience with countless such cases served as the best yardstick for evaluating the effectiveness of the drug used.

Results of the Study:

If three of the four symptoms—nausea, tremulousness, hallucinations, boisterousness and combativeness—were visibly improved or controlled within 16 hours, results with hydroxyzine were evaluated as excellent. If this did not occur, hydroxyzine was judged to be ineffective.

Accordingly, 276 of the 326 patients (85 per cent) experienced satisfactory symptomatic control; 50 patients (15 per cent) received no apparent help from the drug. These results were satisfactory in 182 of the 212 male patients (85 per cent), and unsatisfactory in 30 (14 per cent). Ninety-four of the 114 females (79 per cent) were satisfactorily controlled, while 20 (21 per cent) were not.

In most instances it was not necessary to await the time-span needed for three doses at 4-hour intervals to observe substantial improvement. Eight per cent of the males treated were controlled following one dose of hydroxyzine; 78 per cent experienced their improvement after the second or third 200 mg. dose. Among the females, 28 per cent were improved after a single dose, while 51 per cent were controlled following the second or third dose.

In no case where the results were judged satisfactory was there failure in the control of tremors. Nausea was unimproved in 28 males (15 per cent) and in 16 females (28 per cent). No instance of toxic reaction or side effect was observed or reported in this entire series of patients.

Commentary:

The physician in a police setting, treating large numbers of patients for symptoms of alcohol withdrawal, may not concern himself with the sociologic, legal, and other aspects of alcoholism. Long-term treatment or referral is not his primary medical responsibility either. The situation apropos of treating alcoholics in private practice and hospitals, however, is altogether different.

All too often, private physicians and general hospitals, lacking the inclination to intervene, shunt off elsewhere — usually to public facilities — patients who are alcoholics and in the withdrawal syndrome. Nonetheless, the physician in practice should be prepared to regard patients who are problem drinkers as legitimate medical charges who, when seen, are frequently in acute physical and psychic stress.

Much can be done to control the agitation, restlessness, and nervousness — along with the other classic symptoms — common to these patients. On many occasions, proper management will prevent immediately sending such persons back into an acute drinking episode as the only feasible escape from the urgent symptoms of alcohol withdrawal.

A compound such as hydroxyzine can be of great value to the physician undertaking to treat alcoholic patients. The drug showed itself capable of providing prompt, effective relief of most post-alcoholic symptoms in the vast majority of prisoners. Continued assurance and medication with an ataractic substance will tend to allay the underlying fear and tension which are undoubtedly at the crux of most uncontrolled drinking.

If private practitioners and hospitals will continue to recognize alcoholism as a prime medical problem and more willingly provide palliation during the withdrawal syndrome with such a drug as hydroxyzine — and provide and recommend

private long-term medical and psychiatric care as needed — a certain proportion of problem drinkers will never become nuisances, prisoners, and public charges.

As is not the case with other tranquilizers, hydroxyzine has no published record of causing addiction and dependence or withdrawal symptoms. Not a single instance of toxic reaction to the drug has been reported in the literature. In addition, ingestion of high dosages daily, even for extended periods of time,⁶⁻⁸ has produced no damage to blood or liver function. Successful suicide attempts with hydroxyzine have not been recorded. Where treatment of emotionally labile persons is involved, these considerations might serve to put reluctant practitioners at ease.

McGettigan⁹ has reported the high effectiveness of hydroxyzine in treating patients who present themselves to private institutions for control of alcohol withdrawal and the drinking habit. He found the drug "an ideal medication for the post-alcoholic state" and that, in 85 patients treated, secondary addiction, further mood depression, convulsions, or liver damage were not encountered.

Treatment of alcoholic patients by general practitioners with hydroxyzine on an outpatient or hospital basis is recommended by Major.¹⁰ He noted that hydroxyzine administered parenterally in 50 to 100 mg. doses brought the disturbed or combative alcoholic patient under control within 20 to 30 minutes and "may be the drug of choice for this phase of therapy."

Summary and Conclusion:

Of 326 patients treated with hydroxyzine for control of symptoms of the postalcoholic syndrome,

276 (85 per cent) were excellently controlled within 16 hours—usually after 10 hours. Dosage used was 200 mg. q. 4 h. No toxic reactions or side effects were noted. Hydroxyzine, therefore, may be unconditionally recommended to those physicians treating patients for alcohol withdrawal in a police setting.

On the basis of this experience, however, and corroborating findings of private clinicians, use of hydroxyzine may be equally urged upon private practitioners and medical-care institutions encountering alcoholic patients following an acute drinking bout. Knowledge of the fact of acute alcoholism as a pressing medical problem is essential. Proper medical management can do much to control individual problem drinkers and to prevent them from becoming public charges. The efficacy and safety of hydroxyzine seen in this study place it high on the list of agents available to all physicians undertaking medical responsibility for alcoholic patients.

1215 E. Colfax Avenue.

REFERENCES:

1. Block, M. A.: Alcoholism, Guest Editorial, J.A.M.A. 163:550 (Feb. 10) 1957.
2. Goldman, H. I.: Clinical Evaluation of Tolserol in the postalcoholic syndrome, Rocky Mountain M. J. (Aug.) 1954.
3. Mephate in the postalcoholic syndrome, Rocky Mountain M. J. (May) 1957.
4. Outpatient treatment of postalcoholic syndrome, J.A.M.A. 167: 2069 (Aug. 23) 1958.
5. Treatment of postalcoholic syndrome with triflupromazine hydrochloride J.A.M.A. 171:1502 (Nov. 14) 1959.
6. Cohen, S.: Comment Corner, Am. Pract. & Dig. Treat. 10:1677 (Oct.) 1959.
7. Lipton, M. I.: High dosages of hydroxyzine in outpatient treatment of severe neuroses and psychoses (To be published).
8. Lapolla, A.: High dosages of hydroxyzine in the treatment of institutionalized mental patients (To be published).
9. McGettigan, D. L.: Hydroxyzine Hcl in the management of acute alcoholism, Western Medicine, 1:8 (Jan.) 1960.
10. Major, R. A.: The general practitioner's role in treating alcoholism, GP 21:104 (Feb.) 1960.

Medical Art Exhibit

The 24th Annual Exhibition of the American Physicians Art Association will be held from June 26th to 30th in New York City in conjunction with the annual meeting of the American Medical Association.

The exhibit will include works of sculpture,

painting, crafts and photography by physicians throughout the United States.

Further information can be obtained from Alfred A. Richman, M. D., secretary, 307 Second Avenue, New York 3, N. Y.

MEETINGS

New Mexico GPs to Meet July 17-20 in Ruidoso

The New Mexico Chapter of the American Academy of General Practice will hold its fourth annual summer clinic July 17 through July 20 in Ruidoso.

Faculty for the summer clinic will be furnished by the Texas University Medical School in Galveston. Credit for approximately 14 hours in Category I will be given physicians participating in the clinic.

Preregistration fee is \$25. For further information write to Dr. R. W. Briggs, 406 North Pennsylvania Ave., Roswell, N. M.

Dr. U. S. Marshall of Roswell is president of the New Mexico Chapter of the AAGP. Other officers are Dr. Jack C. Redman, Albuquerque, president-elect; Dr. Frederick R. Brown, Roswell, vice-president; and Dr. Briggs, secretary-treasurer.

Directors are Dr. W. J. Hopkins, Lovington; Dr. H. D. Lehman, Portales; and Dr. M. A. Tanny, Albuquerque.

Delegates are Dr. Leland Evans, Las Cruces; and Dr. J. A. Rivas, Belen. Alternate delegates are Dr. A. M. Rosen, Taos, and Dr. Tanny. Dr. Evans is a member of the AAGP Commission on Education and is regional advisor for the AAGP in the Rocky Mountain states.

Dr. Redman is a member of the AAGP National Commission on Legislation and Public Policy.

COMING MEETINGS

Summer Seminar, Fundamental Aspects of Obstetrics and Gynecology, Survey of Human Genetics, University of Colorado Medical Center, Denver, June 19-21, 1961. Twelve hours AAGP Category I credit.

United States-Mexico Border Public Health Association, Annual Meeting, San Diego, June 25-29, 1961.

Rocky Mountain Cancer Conference, Hotel Brown Palace West, Denver, July 12, 13, 1961.

Summer Clinic, New Mexico Chapter, American Academy of General Practice, Ruidoso, N.M., July 17-20, 1961. Fourteen hours Category I credit.

Postgraduate Course in Pediatrics, The University of Colorado School of Medicine, Stanley Hotel, Estes Park, Colorado, August 21-25, 1961.

Western Association of Railway Surgeons, Annual Meeting, Holiday Hotel, Reno, Nev., Sept. 28-30, 1961.

Southwest Obstetrical & Gynecological Society, Eleventh Annual Meeting, Konakai Club, San Diego, Oct. 15-17, 1961.

Southwestern Medical Association, 43rd Annual Meeting, Tropicana Hotel, Las Vegas, Nev., Oct. 19-21, 1961.

Serving You 365 Days A Year

SOUTHWEST BLOOD BANKS

John B. Alsever, M.D., General Medical Director

Federally Licensed and Supervised by Physicians from the Southwest to Provide Blood and Plasma of Highest Quality on a 24-Hour Basis.

Albuquerque

Phoenix

El Paso

Lubbock

Houston

San Antonio

Harlingen



Southwestern Physicians' Directory



SAUL B. APPEL, M.D.

Certified by the American Board of Internal Medicine

CARDIOVASCULAR DISEASES

Suite 10E KE 3-5201 EL PASO MEDICAL CENTER 1501 Arizona Ave. El Paso, Texas

ARTESIA MEDICAL CENTER

Phone:

Henry L. Wall, M.D., Suite A SH 6-2311
General Practice
Robert W. Harper, M.D., Suite B SH 6-2531
Surgery and Gynecology
Owen C. Taylor, Jr., M.D., Suite C SH 6-2521
General Practice
C. Pardue Bunch, M.D., Suite D SH 6-3321
General Practice
Gerald A. Slusser, M.D., Suite E SH 6-2441
Surgery
X-ray and Medical Laboratory SH 6-4200
Fourth and Washington Artesia, New Mexico

ANDREW M. BABEY, M. D.

Certified by the American Board of Internal Medicine

CARDIOVASCULAR DISEASES

250 West Court Avenue Jackson 4-4481 Las Cruces, N. M.

FRANK O. BARRETT ANESTHESIOLOGY ASSOCIATES

J. A. Shugart, M.D.

(Diplomate American Board of Anesthesiology)

Jack Walker, M.D., J. W. Redelfs, M.D., Jack Ellis, M.D.

B. F. Fehlman, M. D., C. G. Race, M.D.

— ANESTHESIOLOGY —

El Paso Medical Center KE 3-8431 1501 Arizona Ave. El Paso, Texas

OTTO L. BENDHEIM, M. D.

DIPLOMATE AMERICAN BOARD OF PSYCHIATRY &
NEUROLOGY

5051 N. 34th Street CRestwood 7-7431 Phoenix, Arizona

RAYMOND J. BENNETT, M. D.

Diplomate of the American Board of Neurology and Psychiatry

PRACTICE LIMITED TO NEUROPSYCHIATRY

Suite 7A El Paso Medical Center 1501 Arizona Avenue
Phone KE 2-1177 El Paso, Texas

JACK A. BERNARD, M.D., F.A.C.P.

Diplomate American Board Internal Medicine

INTERNAL MEDICINE CARDIOVASCULAR DISEASES

Suite 3C El Paso Medical Center 1501 Arizona Avenue
Phone KE 3-8151 El Paso, Texas

VICTOR M. BLANCO, M.D.

Diplomate of the American Board of Surgery

GENERAL AND CANCER SURGERY

205 University Towers Building
1900 N. Oregon St. KE 3-5519 El Paso, Texas

CLEMENT C. BOEHLER, M. D., F.A.C.S.

H. W. DEMAREST, M.D., F.A.C.S.

Diplomates American Board Obstetrics and Gynecology

Suite 8-A Medical Center 1501 Arizona Avenue
Phone KE 2-6591 El Paso, Texas

FREDERICK P. BORNSTEIN, M.D.

Certified by the American Board of Pathology
in Pathologic Anatomy and Forensic Pathology

102 University Towers Bldg.
1900 N. Oregon St. KE 2-3901 El Paso, Texas

LOUIS W. BRECK, M.D.

W. COMPERE BASOM, M.D.

MORTON H. LEONARD, M.D.

MARIO PALAFOX, M.D.

ZIGMUND W. KOSICKI, M.D.

ADRIAN L. GRASS, M.D.

The El Paso Orthopaedic Surgery Group

1220 N. Stanton St. Telephone KE 3-7465 El Paso, Texas

BASIL K. BYRNE, M.D., F.A.A.P.

IRVIN J. GOLDFARB, M.D., F.A.A.P.

Diplomates American Board of Pediatrics
PEDIATRICS

Suite 4A El Paso Medical Center 1501 Arizona Avenue
KE 3-8487 El Paso, Texas

ROBERT J. CARDWELL, M.D.

(Diplomate American Board of Obstetrics and Gynecology)

608 University Towers Building

1900 N. Oregon St. KE 3-7587 El Paso, Texas

ROBERT N. CAYLOR, M.D.

Practice Limited to Ophthalmology

508 University Towers Building
1900 N. Oregon St. KE 3-4909 El Paso, Texas



Southwestern Physicians' Directory



WILLIAM I. COLDWELL, M.D.

Certified by the American Board of Internal Medicine

INTERNAL MEDICINE

501 University Towers Building

1900 N. Oregon St. KE 2-2661 El Paso, Texas

BRANCH CRAIGE, M.D., F.A.C.P.

(Certified by American Board of Internal Medicine)

INTERNAL MEDICINE

Suite 5B El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-7121 El Paso, Texas

E. S. CROSSETT, M.D.

Diplomate American Board of Thoracic Surgery

GEORGE W. IWEN, M.D. THORACIC SURGERY

Cardiovascular Surgery Broncho-Esophagology
Suite 11-D KE 3-8511 or KE 2-2474 1501 Arizona Ave.
El Paso Medical Center El Paso, Texas

WICKLIFFE R. CURTIS, M. D., F.A.C.S.

JAMES D. BOZZELL, M.D., F.A.C.S.

Diplomates American Board of Urology

PRACTICE LIMITED TO UROLOGY

Suite 3B El Paso Medical Center 1501 Arizona Avenue
Phone KE 3-1426 El Paso, Texas

RITA L. DON, M.D.

Allergy

102 University Towers Building

1900 N. Oregon St. KE 2-3901 El Paso, Texas

ANTONIO DOW, M.D., F.A.C.S.

(Diplomate of American Board of Surgery)

GENERAL SURGERY

205 University Towers Building

1900 N. Oregon St. KE 2-7305 El Paso, Texas

HAROLD D. DOW, M.D.

FREDERICK J. KOBERG, M.D.

General Practice — Surgery

Box 456
702 Hobbs Road Phone 3641 Seminole, Texas

JOHN A. EISENBEISS, M.D., F.A.C.S.

WILLIAM B. HELME, M.D.

Diplomates of the American Board of Neurological Surgery

NEUROSURGERY

926 E. McDowell Road AL 4-3151 Phoenix, Arizona

WARD EVANS, M.D., F.A.C.S.

(Diplomate American Board of Surgery)

SURGERY

608 University Towers Building

1900 N. Oregon St. KE 3-7587 El Paso, Texas

LESTER C. FEENER, M.D., F.A.C.P.

Diplomate American Board of Internal Medicine

INTERNAL MEDICINE

CARDIOVASCULAR DISEASES

404 Banner Bldg. KE 2-5771 El Paso, Texas

2021 N. Central Ave. AL 3-4131

DOUGLAS D. GAIN, M.D.

JOHN W. KENNEDY, M.D.

JAMES R. MATHESON, M.D.

FRANK TOLONE, M.D.

Diplomates of American Board of Radiology

X-RAY THERAPY and DIAGNOSIS

RADIUM THERAPY

Phoenix

Arizona

ALBERT A. GEMOETS, M.D.

Member American Academy of General Practice

GENERAL PRACTICE

3726 1/2 Alameda Ave. KE 3-7689 El Paso, Texas

H. M. GIBSON, M.D., F.A.C.S.

Certified by American Board of Urology

PRACTICE LIMITED TO UROLOGY

512 University Towers Building

1900 N. Oregon St. KE 2-8130 El Paso, Texas

L. A. GLADSTONE, M.D.

W. D. FEINBERG, M.D.

INTERNAL MEDICINE

Bldg. 14, Suite D 1501 Arizona Ave.
El Paso Medical Center KE 3-2508 El Paso, Texas

JAMES J. GORMAN, M.D., F.A.C.P.

Diplomate American Board of Internal Medicine

DIAGNOSIS — GASTROENTEROLOGY

701 First National Building KE 2-6221 El Paso, Texas

J. LEIGHTON GREEN, M.D., F.A.C.S.

GENERAL and GYNECOLOGICAL SURGERY

Suite 3A El Paso Medical Center 1501 Arizona Avenue
Phone KE 2-9790 El Paso, Texas



Southwestern Physicians' Directory



DRS. HART, BOVERIE, BLACK,
CLAYTON, GREEN & WHITE

PATHOLOGICAL AND CLINICAL LABORATORIES
X-RAY DIAGNOSIS AND THERAPY

Radioactive
Isotopes

Cobalt
Beam Therapy

Pathology

M. S. HART, M.D.
C. L. GREEN, M.D.

Diplomates American Board of Pathology

R. F. BOVERIE, M.D.
G. L. BLACK, M.D.
R. S. CLAYTON, M.D.
J. E. WHITE, M.D.

Diplomates American Board of Radiology

MELVIN A. LYONS, M.S.H.A.
Business Manager

El Paso Medical Center
1501 Arizona Ave., Suite 2A
KE 3-4478

Medical Arts Building
415 E. Yandell Drive, Suite 105
KE 3-6926

EL PASO, TEXAS

SOL HEINEMANN, M.D., F.A.C.S.

Diplomate, American Board of Urology

UROLOGY

212 University Towers Bldg.

1900 N. Oregon St.

LI 2-1539

El Paso, Texas

SOLOMON HELLER, M.D.

INTERNAL MEDICINE

Hematology—Endocrinology

505 University Towers Building

1900 N. Oregon St.

KE 3-0406

El Paso, Texas

HERBERT E. HIPPS, M.D.

ORTHOPEDIC SURGERY

1612 Columbus Ave.

4-4701

Waco, Texas

RUSSELL HOLT, M.D.
B. LYNN GOODLOE, M.D.

GENERAL and GYNECOLOGICAL SURGERY

MEDICAL ARTS BUILDING

415 East Yandell Blvd.

KE 3-3443

El Paso, Texas

RALPH H. HOMAN, M.D., F.A.C.P.
CARDIOLOGY

ROBERT B. HOMAN, JR., M.D., F.A.C.S.
DISEASES OF THE CHEST — THORACIC SURGERY

Suite 7D El Paso Medical Center
Phone KE 3-1409

1501 Arizona Avenue
El Paso, Texas

GEORGE W. HORTON, M.D.

PRACTICE LIMITED TO ORTHOPEDICS

513 West 4th Street

FEderal 2-1271

Odessa, Texas

LOUIS G. JEKEL, M.D.
ROBERT H. SNAPP, M.D.

Diplomates American Board of Dermatology

DERMATOLOGY

550 W. Thomas Rd.

CR 4-4901

Phoenix, Ariz

W. A. JONES, M.D.

Diplomate American Board of Neurological Surgery

K. ZOLFOGHARY, M.D.,
NEUROLOGICAL SURGERY

Suite 1C

El Paso Medical Center

1501 Arizona Avenue

KE 2-7579, KE 3-9076

El Paso, Texas

G. H. Jordan, M.D., F.A.C.S.

C. E. Webb, M.D., F.A.C.S.

DRS. JORDAN AND WEBB

Diplomates American Board of Surgery

GENERAL and GYNECOLOGICAL SURGERY

Suite 7B

El Paso Medical Center

1501 Arizona Ave.

Phone KE 2-1693

El Paso, Texas

LINDELL M. KINMAN, M.D.

Diplomate American Board of Urology

UROLOGY

300 West Alameda

Phone MA 2-4111

Roswell, N. Mex.

M. NATHAN KLEBAN, M.D.

Certified by American Board of Internal Medicine

Internal Medicine

610 University Towers Building

1900 N. Oregon St.

KE 2-7079

El Paso, Texas

3500 Physicians Road

Southwestern Medicine

GILBERT LANDIS, M.D., F.A.C.S.

Diplomate American Board of Obstetrics & Gynecology

OBSTETRICS, GYNECOLOGY
and GYNECOLOGICAL SURGERY

Suite 15-D

KE 3-5023

1501 Arizona Ave.

El Paso Medical Center

El Paso, Texas

Urised combats bacteria while providing soothing relief in cystitis, urethritis, pyelitis, pyelonephritis, and prostatitis. Urised avoids toxic reactions or drug resistance.

as a first choice **URISED[®]**
is effective in 80 to 90%
of urinary infections^{1,2,3,4} (no side effects reported)

Each Urised tablet contains: Atropine Sulfate 1/2000 gr., Hyoscyamine 1/2000 gr., Methenamine, Methylene Blue, Benzoic Acid, Salol and Gelsemium. *Supplied:* Bottles of 100.

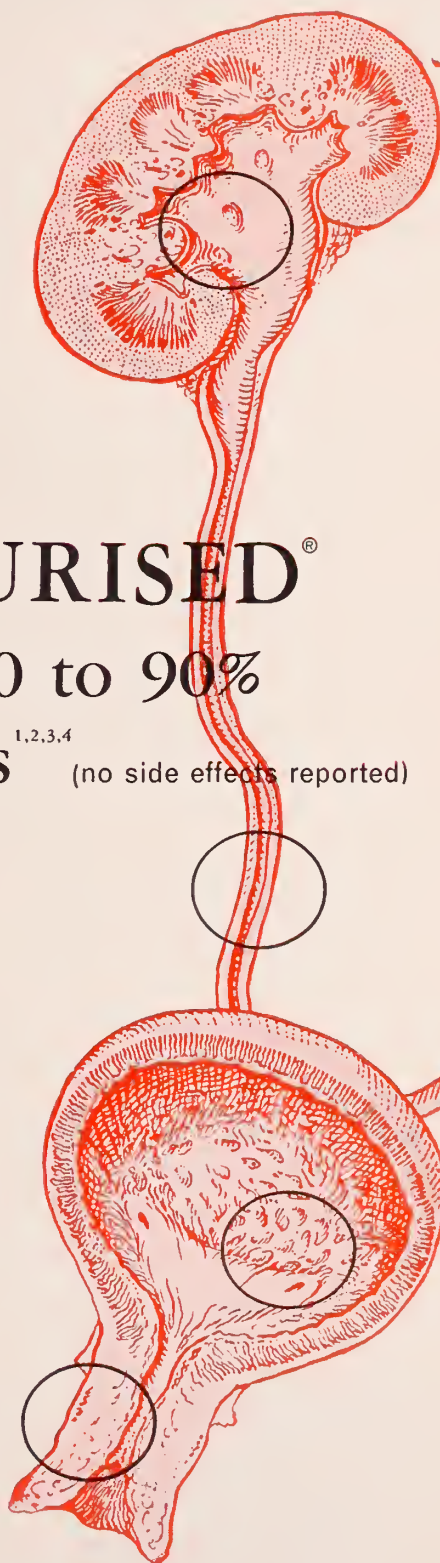
(1) Marshall, W.: Clin. Med. 7:499-502, 1960; (2) Haas, J., and Kay, L. L.: Management of Urinary Tract Infections (to be published); (3) Renner, J., et al.: Urinary Tract Infections: Treatment with Antiseptic-Antispasmodic Agent (to be published). (4) Strauss, B.: Clin. Med. 4: 309-310, 1957



R^x URISED[®]

CHICAGO PHARMACAL COMPANY

5547 N. Ravenswood Ave., Chicago 40, Ill.





Southwestern Physicians' Directory



ROYCE C. LEWIS, JR., M.D.

Diplomate American Board of Orthopedic Surgery

ORTHOPEDIC SURGERY and SURGERY OF THE HAND

1910 Knoxville St. PO 3-8281 Lubbock, Texas

A. L. LINDBERG, M.D.
JOHN W. VOSSKUHLER, M.D.

Neoplastic Diseases

TUCSON TUMOR CLINIC

721 N. 4th Ave. MA 3-2531 Tucson, Arizona

CHARLES P. C. LOGSDON, M.D.

CARDIOLOGY

415 E. Yandell Blvd. KE 3-7916 El Paso, Texas

TRUETT L. MADDOX, D.D.S.

ORAL SURGERY

Suite 9A El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-3659 El Paso, Texas

WALTER B. MANTOOTH, JR., M. D.

JOE H. LEHMAN, M. D.

Dermatology and Cancer of the Skin

Suite 101 Lubbock
3801 19th Street SWift 9-4359 Texas

GEORGE B. MARKLE, IV, M.D.

Diplomate of the American Board of Surgery

GENERAL and GYNECOLOGICAL SURGERY

911 North Canal TU 5-5240 Carlsbad, New Mexico

MARSHALL CLINIC

I. J. Marshall, M.D.

General Surgery and Diagnosis

U. S. Marshall, M.D.

General Surgery and General Practice

E. A. Latimer, M.D.

General Practice

C. H. Fowler, M.D.

Internal Medicine and Cardiology

Thomas J. Jones, M.D.

Diseases of the Skin and Allergies

H. D. Johnson, Jr., D.D.S.

ROSWELL

NEW MEXICO

HOWARD J. H. MARSHALL, M.D.

Member American Academy of General Practice

GENERAL PRACTICE

Suite 8E 1501 Arizona Avenue
El Paso Medical Center KE 2-2431 El Paso, Texas

MEDICAL CENTER HOSPITAL AND CLINIC

Eugene McCarthy, M.D., FACS, FICS

Diplomate American Board of Obstetrics & Gynecology

Jeff H. Davis, M.D., AAGP; Joe J. Horn, M.D., AAGP

Howard Handcock, M.D., DABR

A. B. Cairns, M.D., FACCP; W. Ralph Thomas, M.D.
220 St. Louis St. CA 4-7426 Plainview, Texas

JAMES R. MORGAN, M.D.

Certified by American Board of Obstetrics & Gynecology

OBSTETRICS and GYNECOLOGY

Suite 3A El Paso Medical Center 1501 Arizona Ave.
KE 3-2265 El Paso, Texas

A. WILLIAM MULTHAUF, M.D., F.A.C.S.

UROLOGICAL DIAGNOSIS AND SURGERY

1315 First National Bldg. KE 3-8986 El Paso, Texas

E. K. NEIDICH, M.D., D.A.B.R.

RADIOLOGY

Memorial General Hospital JACson 6-2411 Las Cruces, N. M.

WALLACE E. NISSEN, M.D., F.A.C.S.

W. W. KRIDELBAUGH, M.D., F.A.C.S.

GENERAL SURGERY

Medical Arts Square
801 Encino Place, Suite 35 3-2251 Albuquerque, N. M.

F. KEITH OEHLISCHLAGER, M.D.

WILLIAM M. BRANTLEY, M.D.

OBSTETRICS & GYNECOLOGY

1167 E. 42nd St. Sherwood Medical Center Phone
Suites 5 & 6 Odessa, Texas EM 6-4447

THE ORTHOPEDIC CLINIC

Orthopedic Surgery

W. A. BISHOP, JR., M.D., F.A.C.S.

ALVIN L. SWENSON, M.D., F.A.C.S.

RAY FIFE, M.D.

SIDNEY L. STOVALL, M.D., F.A.C.S.

THOMAS H. TABER, JR., M.D., F.A.C.S.

Diplomates of the American Board of Orthopedic Surgery
2620 North Third Street—Phone CRestwood 7-6211—Phoenix, Ariz.



Southwestern Physicians' Directory



JAMES M. OVENS, M.D.
F.A.C.S., F.I.C.S.

Diplomate American Board of Surgery
CANCER AND TUMOR SURGERY
X-RAY AND RADIUM THERAPY

608 Professional Building AL B-8074 Phoenix, Ariz.

ROBERT E. PARKINS, D.D.S.
GENERAL DENTISTRY

Bldg. 1, Suite E 1501 Arizona Ave.
Phone KE 3-1245 El Paso Medical Center El Paso, Texas

MURRAY PERSKY, M.D.
PSYCHIATRY

Suite 15-B 1501 Arizona Ave.
El Paso Medical Center KE 2-7952 El Paso, Texas

JACK C. POSTLEWAITE, M.D.

Diplomate American Board of Internal Medicine
INTERNAL MEDICINE

Suite 5D 1501 Arizona Ave.
El Paso Medical Center KE 2-1385 El Paso, Texas

DONALD RATHBUN, M.D.

NEUROLOGY

and

Internal Medicine

Suite 4B KE 2-877B 1501 Arizona Ave.
El Paso Medical Center El Paso, Texas

*3500 Physicians Road
Southwestern Medicine*

VINCENT M. RAVEL, M.D.

Diplomate American Board of Radiology
Radiology — Radio-Isotopes
Cobalt⁶⁰ — Teletherapy

101 University Towers Bldg.
El Paso KE 2-3459 Texas

HERMAN RICE, M.D.

Practice Limited to General Surgery

El Paso Medical Center

Bldg. 4-B 1501 Arizona Ave.
Phone KE 3-8051 El Paso, Texas

RISSLER-WOLLMANN CLINIC

ROSS W. RISSLER, M.D., F.A.C.C.
(Certified by the American Board of Internal Medicine)
INTERNAL MEDICINE — CARDIOLOGY

WALTER W. WOLLMANN, M.D., F.A.C.S.
(Certified by the American Board of Surgery)
GENERAL SURGERY

2001 Grant Ave. KE 3-1601 El Paso, Texas

CECIL A. ROBINSON, M.D., F.A.C.S.

Diplomate American Board of Orthopaedic Surgery

Orthopaedic Surgery

111 No. Pine Street JU 6-2541 Kermit, Texas

S. PERRY ROGERS, M.D.

W. HUNTER VAUGHAN, M.D.

(Diplomates American Board of Orthopedic Surgery)
ORTHOPEDIC SURGERY

Suite 2B El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-4433 El Paso, Texas

WILLARD W. SCHUESSLER, M.D.

DONALD H. EWALT, M.D.

Diplomates of the American Board of Plastic Surgery
Plastic, Reconstructive Surgery and
Maxillo-facial Surgery

1501 Arizona Ave. Medical Center, Suite 4-C
El Paso, Texas

F. P. SCHUSTER, M.D.

S. A. SCHUSTER, M.D.

NEWTON F. WALKER, M.D.

BRADFORD HARDIE, M.D.

EYE, EAR, NOSE AND THROAT-BRONCHOSCOPY

First National Bldg. KE 2-1495 El Paso, Texas

O. J. SHAFFER, D.D.S., F.A.C.D.

(Diplomate American Board of Oral Surgery)

ORAL SURGERY

Suite 1D El Paso Medical Center 1501 Arizona Ave.
Phone KE 3-6742 El Paso, Texas

D. J. SIBLEY, JR., M.D.

GENERAL PRACTICE

Box 367 Phone 584 Ft. Stockton, Texas



Southwestern Physicians' Directory



EUGENE P. SIMMS, M.D.

— GENERAL PRACTICE —

Medical Arts Center

1213 Tenth Street HEMlock 7-1720 Alamogordo, N. M.

Leslie M. Smith, M.D. John C. Wilkinson, M.D.
H. D. Garrett, M.D.

DRS. SMITH, GARRETT & WILKINSON

Diplomates American Board of Dermatology

DISEASES OF THE SKIN

Suite 3D El Paso Medical Center 1501 Arizona Ave.
Phone KE 3-6172 El Paso, Texas

C. M. STANFILL, M.D.

Diplomate American Board of Otolaryngology

EAR, NOSE AND THROAT

Stapes Mobilization

507 University Towers Building

1900 N. Oregon St. KE 2-9449 El Paso, Texas

ROBERT HEALY STEVENS, B.S., M.D.

F.C.C.P.

ALLERGY — INTERNAL MEDICINE

1313 N. Second St. AL 4-8841 Phoenix, Arizona

C. S. STONE, M.D., F.A.C.S.

EXpress 3-5323

301 East Cain Street Hobbs, N.M.

JESSON L. STOWE, M.D.

GRAY E. CARPENTER, M.D.

GYNECOLOGY AND OBSTETRICS

2323 Montana Avenue KE 2-4631 El Paso, Texas

WINSLOW P. STRATEMEYER, M.D.

Diplomate American Board of Neurological Surgery

NEUROLOGICAL SURGERY

Suite 11A Office KE 2-9167 1501 Arizona Ave
El Paso Medical Center Home JU 4-0553 El Paso, Texas

M. D. THOMAS, M.D.

Diplomate American Board of Anesthesiology

Suite 12-D KE 3-3745
1501 Arizona Ave. El Paso, Texas

El Paso Medical Center

ROBERT F. THOMPSON, M.D., F.A.C.S.

(Certified by American Board of Urology)

UROLOGY

301 University Towers Building
1900 N. Oregon St. KE 2-4321 El Paso, Texas

TURNER'S CLINICAL
& X-RAY LABORATORIES

GEORGE TURNER, M.D.

DELPHIN von BRIESEN, M.D.

HELEN W. ANDERSON, M.D.

MEDICAL CENTER

1501 Arizona Ave. Phone: KE 2-4689
Building No. 6 El Paso, Texas

3500 Physicians Road

Southwestern Medicine

HARRY H. VARNER, M.D.

LEIGH E. WILCOX, M.D.

RUSSELL L. DETER, M.D.

GENERAL SURGERY

Suite 5E 1501 Arizona Ave.
Phone KE 2-6529 El Paso Medical Center El Paso, Texas

WILLIAM H. WADE, M.D., F.A.C.S.

Diplomate American Board of Surgery

GENERAL SURGERY

CARDIOVASCULAR SURGERY

307 Medical Arts Building
415 E. Yandell Drive KE 2-8111 El Paso, Texas

RICHARD P. WAGGONER, M.D.

M.S. (SURG.), F.A.C.S.

GENERAL SURGERY

504 N. Richardson St. Phone 20B Roswell, N. M.

GRADY M. WALLACE, M.D., D.A.B.O.

Practice Limited to the Eye

3801 19th Street SW 9-4343 Lubbock, Texas

in the wide middle region of pain

Percodan®

Salts of Dihydrohydroxycodone and
Homatropine, plus APC)

TABLETS

fills the gap
between
mild oral and
potent parenteral
analgesics¹⁻⁷

- acts in 5-15 minutes
- relief usually lasts
6 hours or longer
- toleration excellent...
constipation rare
- sleep uninterrupted
by pain

Each Percodan® Tablet contains
4.50 mg. dihydrohydroxycodone
HCl, 0.38 mg. dihydrohydroxy-
codeinone terephthalate (warning:
may be habit-forming), 0.38 mg.
homatropine terephthalate,
224 mg. acetylsalicylic acid,
160 mg. acetophenetidin, and
32 mg. caffeine.

*for fast and
thorough
pain relief*

AVERAGE ADULT DOSE

1 tablet every 6 hours.

May be habit-forming.

Federal law permits
oral prescription.

Also Available

For greater

flexibility in dosage —

Percodan®-Demi: The complete
Percodan formula, but with
only half the amount of salts of
dihydrohydroxycodone
and homatropine.

1. Blank, P., and Boas, H.: Improved
analgesia for moderate pain, *Ann. West.
Med. & Surg.* 6:376, 1952.
2. Bonica, J. J.,
et al.: The management of postpartum
pain with dihydrohydroxycodone
(Percodan): Evaluation with codeine and
placebo, *West. J. Surg.* 65:84, 1957.
3. Cass, L. J., and Frederick, W. S.:
A controlled study in pain relief, *M. Times*
84:1318, 1956.
4. Chasko, W. J.: Pain-free
dental surgery: Postoperative extension
of the pain-free state, *J. District of
Columbia Dent. Soc.* 31:3, No. 5, 1956.
5. Cozen, L.: *Office Orthopedics*, ed. 2,
Philadelphia, Lea & Febiger, 1953, pp. 120,
138, 145, 156, 234.
6. Nicolson, W. P., Jr.,
and Skandalakis, J. E.: Control of postopera-
tive pain, *J.M.A. Georgia* 46:471, 1957.
7. Piper, C. E., and Nicklas, F. W.: Percodan
for pain in industrial practice, *Indust. Med.*
23:510, 1954; abstracted, *Clin. Med.* 3:1008, 1956,
Current M. Digest 22:135, No. 3, 1955.

Endo®

ENDO LABORATORIES
Richmond Hill 18, New York

*U.S. Pats. 2,628,185 and 2,907,768



Southwestern General Hospital

Accredited by the Joint Commission on Accreditation of Hospitals

Member Hospital:

American Hospital Association
Texas Hospital Association
Blue Cross of Texas

•

COTTON AVENUE AND ERIE STREET • EL PASO, TEXAS

Hotel Dieu, Sister's Hospital

Fully Approved by the
Joint Commission on Accreditation
of Hospitals.

Latest Facilities For All Services.
Emergency Service Around
the Clock.

EL PASO, TEXAS

Hotel Dieu School of Nursing

Fully approved by the
National Nursing Accrediting
Service.

Applicants May Apply
To
Sister Aloysius, *Director*

EL PASO, TEXAS

Hotel Dieu School of Medical Technology

Fully Approved by the American
Medical Association, American
Society of Clinical Pathologists,
and Registry of Medical Tech-
nologists.

EL PASO, TEXAS

The Clinic-Hospital of San Angelo

D. D. WALL, M.D.
Obstetrics & Gynecology
R. M. FINKS, M.D.
Pediatrics
M. D. KNIGHT, M.D.
Surgery
W. H. BRAUNS, M.D.
Internal Medicine

ROY E. MOON, M.D.
Obstetrics & Gynecology
CHAS. F. ENGELKING, M.D.
Ear, Nose and Throat
DALE W. HAYTER, M.D.
Ophthalmology

R. A. MORSE, M.D.
Internal Medicine
RALPH R. CHASE, M.D.
Pediatrics
TOM R. HUNTER, M.D.
Surgery
H. W. DISERENS, M.D.
Pediatrics

Consultant in Pathology: LLOYD R. HERSHBERGER, M.D.

Consultants in Radiology: JOHN E. BALLARD, M. D.; JOHN G. BOLEN, M.D.

224-234 W. BEAUREGARD AVE.

J. B. ADCOCK, Administrator

SAN ANGELO, TEXAS



Front View — Enclosed Patio

Sandia Ranch Sanatorium, Inc.

6903 Edith N. E.

Diamond 4-1618

Albuquerque, New Mexico

Licensed by State Health Department as a Psychiatric Hospital of 68 Beds
For the Care and Treatment of Nervous or Mental Disorders

VARIOUS ACCEPTED FORMS OF THERAPY AVAILABLE

OCCUPATIONAL THERAPY AND OUTDOOR ACTIVITIES

CLINICAL LABORATORY AND ELECTROENCEPHALOGRAPH

LIMITED FACILITIES FOR DOMICILIARY CARE

Favorable Year Round Climate — 20 Acres Landscaped Grounds

JOHN W. MYERS, M.D., Medical Director

ALAN JACOBSON, M.D., Psychiatrist

HENRY T. PENLEY, M.D., Psychiatrist

OVERTON CLINIC

300 Hughes Building

PAMPA, TEXAS

M. C. Overton, Jr., M.D.
Surgery and Gynecology

E. S. Williams, M.D.
Pediatrics and Obstetrics

J. R. Donaldson, M.D.
Surgery

G. R. Hrdlicka, M.D.
Radiology

C. M. Lang, M.D.
Surgery

R. W. Moore, M.D.
Internal Medicine

DUTTON LABORATORIES

FREDERICK P. BORNSTEIN, M.D.
(Certified by American Board of Pathology)
Pathological Anatomy and Forensic Pathology

RITA L. DON, M.D.
(Associate Fellow, American College of Allergists)
Allergy and Clinical Pathology

JOHN B. FRERICHS, M.D.
(Certified by American Board of Pathology)
Pathological Anatomy and Clinical Pathology

J. A. HANCOCK, Ph.D.
Consultant in Chemistry

616 Mills Bldg.
102 University Towers

KE 2-3901
El Paso, Texas

Give Us A Trial On Your

TAYLOR BACK BRACE

Orders

- Send the following measurements: from level of shoulders to tip of sacrum; circumference of pelvis above trochanters; circumference of waist; height and weight.

CHRISTOPHER'S BRACE AND LIMB CO.

2231 Montana St.

KE 2-9690

EL PASO, TEXAS

UNIFORMS

Doctors • Nurses • Interns • Technicians
Poplin, Nylon, Dacron
White and Colors

SURE-FIT UNIFORM CO.

612 N. Oregon St. KE 2-1374 EL Paso, Texas

C. G. McDow and Son, Props.

Rio Grande Pharmacy

419-421 South Stanton St. KE 2-4473 EL Paso, Texas

TAYLOR-SIMPKINS, INC.

MEDICAL OXYGEN

2123 Texas St. KE 3-0952 EL Paso, Texas
Nights — Call LO 5-0359, or LO 5-3060



MEDICAL CENTER PHARMACY

YOUR PROFESSIONAL PHARMACY
IN THE NEW MEDICAL CENTER
PHONE 2-6968-69

1501 ARIZONA ST.

EL PASO, TEXAS

We Carry A Complete Line of

DIABETIC FOODS AND SUPPLIES

McKEE PRESCRIPTION PHARMACY

107 East San Antonio Ave., El Paso
Dial KE 2-2693

For Your Convenience

Use Our Handy Charge-A-Plate Service!

the white house

El Paso, Texas

RICHARD E. MARTIN

MARTIN MORTUARY

Dial KE 2-3691

710 N. Stanton St.

El Paso, Texas

HARDING AND ORR

Funeral Home

EL PASO, TEXAS

320 Montana Ave.

KE 3-1646

Only at the Popular in El Paso . . .

A. G. SPALDING SPORTS EQUIPMENT

POPULAR DRY GOODS CO.

Kaster & Maxon

Funeral Home

El Paso, Texas

KE 2-3431



GUNNING & CASTEEL DRUG STORES

"There is no finer prescription service . . . anywhere"

14 Conveniently Located Stores

El Paso, Texas

PROSTALL®

REDUCES PROSTATIC HYPERTROPHY

PROSTALL shrinks the enlarged prostate, without surgery, by local decongestion and de-edematization.

Each capsule contains 6 gr. of a biochemical combination of glycine (aminoacetic acid), alanine and glutamic acid.

ABSOLUTELY SAFE

No toxicity, no side-effects, no contraindications ever reported after use in thousands of cases.

RELIEVES PROSTATIC SYMPTOMS

PROSTALL relieved nocturia in 95% of cases, urgency in 81%, frequency in 73%, discomfort in 71%, and delayed micturition in 70%. Benefits improved by continued use.

CONTROLS PROSTATIC HYPERTROPHY

PROSTALL reduced the enlarged prostate in 92% of cases, to normal size in 33%, as determined by rectal palpation.

CONTROLLED CLINICAL INVESTIGATION

As reported in the March 1958 issue of The Journal of The Maine Medical Association and in the February 1959 issue of Southwestern Medicine, a controlled clinical investigation of PROSTALL Capsules showed effective results as indicated. Reprints on request.

DOSAGE: 2 capsules t.i.d. after meals for 2 weeks, then 1 capsule t.i.d. for 2 months or longer.

AVAILABILITY: In bottles of 100 and 250 capsules. At all drugstores. If your druggist is out of stock, he can order Prostall from his wholesaler.

METABOLIC PRODUCTS CORP. • 37 HURLEY STREET, CAMBRIDGE, MASS.

Southwestern Surgical Supply Company

Your Complete Source in The Southwest
For All
Ethical Medical Equipment
and Supplies

EL PASO

ALBUQUERQUE

PHOENIX

Full Antispasmodic Action



Four times more potent than atropine in
Depressing Ganglionic
Transmission



Homapin® 4



Dyspepsia, Nausea,
Regurgitation



Ulcers, Cholecystitis,
Enteritis or Pelvic
Disease

A Single Pure Synthetic Alkaloid



No Drying, Flushing
or Visual Blur

MISSION PHARMACAL CO.

SAN ANTONIO, TEXAS

In the school-age child...

when learning
lags behind
intelligence

and

behavior problems
disturb
the family

Deaner[®]-100

Tablets containing 100 mg. deanol as the acetamidobenzoate

- Improves alertness and lengthens attention span
- Facilitates learning and improves scholastic performance
- Improves social adaptability and makes for better integration
- Decreases irritability and restlessness, improves family relationships

Does not interfere with other indicated therapy

Availability

Scored pink tablets in bottles of 50.

Write for descriptive literature and bibliography



Northridge, California



Janet Doe, Librarian
New York Academy of Medicine
2 East 103 Street
New York 29, New York

Southwestern MEDICINE

Official Journal of The Southwestern Medical Association,
The Western Association of Railway Surgeons, The Southwest Obstetrical and Gynecological Society,
Southwestern Dermatological Society, Texas District One Medical Association,
The Southwestern New Mexico Medical Society, and El Paso County Medical Society

Southwestern
Medical
Association

43rd Annual Meeting
Oct. 19-21, 1961

The Tropicana
Las Vegas, Nev.

LIBRARY
JUL 20 1961
NEW YORK
OF MED



Contents on Page 298

VOL. 42, NO. 7

July, 1961



in allergies For smooth,
continuous control of allergic symptoms—relief in minutes for hours, with
virtually no side-effects. And there is a dosage form for every allergic patient.
Pulvules® • Suspension • Pediatric Pulvules **Co-Pyronil®**
(pyrrobutamine compound, Lilly)

158007



NEW

B. I. D.

DOSAGE



PRO-BANTHINE P.A.[®]

(BRAND OF PROPANTHELINE BROMIDE)

PROLONGED-ACTING TABLETS 30 mg.

PROVIDES YOU WITH THE RECOGNIZED
EFFECTIVENESS OF PRO-BANTHINE[®]
PLUS THE CONVENIENCE AND SUSTAINED
ACTION OF PROLONGED-ACTING MEDICATION.

Suggested Dosage—One tablet B.I.D. is usually effective

G. D. SEARLE & Co.

Chicago 80, Illinois

Research in the Service of Medicine

Southwestern Medicine

*The U. S.-Mexico Regional Medical Journal Serving West
Texas, New Mexico, Arizona, Nevada and Northern Mexico*

Official Journal of

The Southwestern Medical Association, The Western Association of
Railway Surgeons, The Southwest Obstetrical and Gynecological
Society, The Southwestern Dermatological Society, Texas
District One Medical Association, The Southwestern
New Mexico Medical Society, and El Paso County
Medical Society

EDITOR *Lester C. Feener, M.D.*
404 Banner Building, El Paso, Texas

MANAGING EDITOR *Louis W. Breck, M.D.*
1220 North Stanton Street, El Paso, Texas

ASSOCIATE EDITORS
Branch Craige, M.D. Maurice P. Spearman, M.D.

VOL. 42

JULY, 1961

No. 7

BOARD OF MANAGERS

Sherwood Burr, M.D.	Leland Evans, M.D.
Harold J. Beck, M.D.	Darwin Neubauer, M.D.
David Russek, M.D.	Carlos Tapia, M.D.
M. D. Thomas, M.D.	Louis W. Breck, M.D.
John Dettweiler, M.D.	H. D. Garrett, M.D.
Russell L. Deter, M.D.	Jack A. Bernard, M.D.
Louis G. Jekel, M.D.	Morton H. Leonard, M.D.
John F. Wanless, M.D.	

ADVERTISING AND SUBSCRIPTION OFFICES

Mott, Reid & McFall

Publishers

310 N. Stanton St., El Paso, Texas

Publication Office

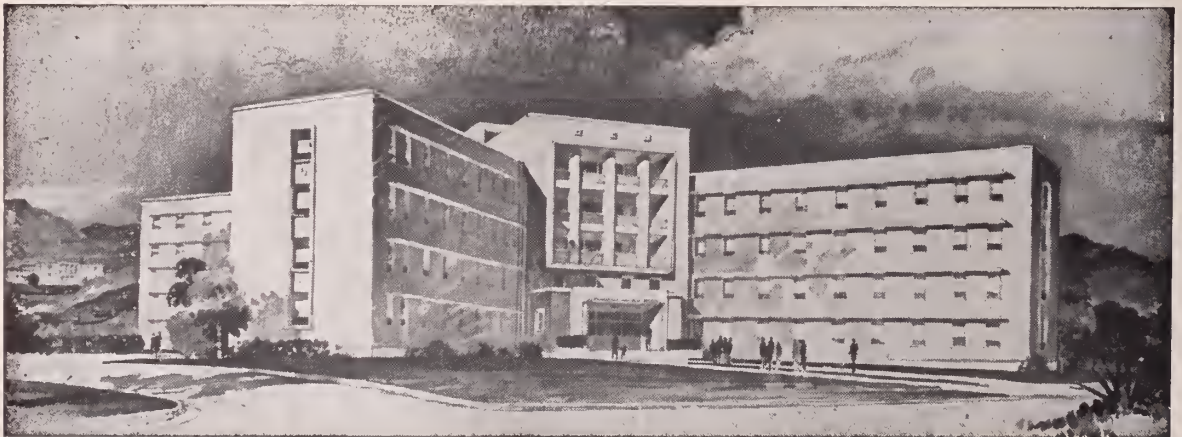
265 Texas St., Fort Worth, Texas

Subscription Price \$5.00 — Single copies 50c

Published Monthly

Gordon M. Marshall — National Advertising Representative
30 West Washington Street, Chicago, Ill., Dearborn 2-SI48;
Eastern Office — John H. Hinse, Room 340, 15 West 44th Street
New York 36, Oxford 7-5262.

Second-class mail privileges authorized at Fort Worth, Texas
Postmaster: All undeliverable copies returnable under Form 3579
should be to Southwestern Medicine, 310 North Stanton Street,
El Paso, Texas.



Providence Memorial Hospital

The Modern Hospital of the Southwest

APPROVED BY THE JOINT COMMISSION ON ACCREDITATION OF HOSPITALS

COMPLETE DIAGNOSTIC and TREATMENT FACILITIES

ISOTOPE THERAPY AND STUDIES

COBALT 60 ROTATIONAL TELETHERAPY UNIT

OUTSTANDING CHEMISTRY LABORATORY

FACILITIES FOR PSYCHIATRIC THERAPY

ELECTROENCEPHALOGRAPHIC LABORATORY

2001 North Oregon Street

• El Paso, Texas

**135 tiny
doses mean
smoother
steroid
therapy...**



In the relatively acid medium of the fasting stomach, Medrol Medules remain essentially intact—only 5% of the Medrol content is released after 2 hours at pH 1.2. However, in the environment of the duodenum (approaching a pH of 7.5), from 90 to 100% of the Medrol is released over a period of 4 hours.

**Slow
Release**

**Slow
Absorption**

**Sustained
Action**



in acute allergic disorders:

Judged to be "a nearly ideal formulation,"¹ Medrol Medules gave good to excellent results in 25 of 28 children with various acute allergic disorders. "There were no serious side effects and minor complaints were reported in only two patients."¹ The author also found that "there is a definite advantage for Medrol Medules inasmuch as much smaller doses seem able to produce full clinical relief. . . ."¹

Indications and effects

Medrol benefits (anti-inflammatory, anti-allergic, antirheumatic, antileukemic, anti-hemolytic) have been demonstrated in acute rheumatic carditis, rheumatoid arthritis, asthma, hay fever and allergic disorders, dermatoses, blood dyscrasias, and ocular inflammatory disease involving the posterior segment.

Precautions and contraindications

Because of Medrol's high therapeutic ratio, patients usually experience dramatic relief *without* developing such possible steroid side effects as gastrointestinal intolerance, weight gain or weight loss, edema, hypertension, acne, or emotional imbalance.

As in all corticotherapy, however, there are certain cautions to be observed. The presence of diabetes, osteoporosis, chronic psychotic reactions, predisposition to thrombophlebitis, hypertension, congestive heart failure, renal insufficiency, or active tuberculosis necessitates careful control in the use of steroids. Like all corticosteroids, Medrol is contraindicated in patients with arrested tuberculosis, peptic ulcer, acute psychoses, Cushing's syndrome, herpes simplex keratitis, vaccinia, or varicella.

1. Dugger, J. A.: J. Michigan M. Soc. 59:1812 (Dec.) 1960.

Medrol^{*} Medules[†]

Each capsule contains: Medrol (methylprednisolone) 4 mg.

Supplied in bottles of 30 and 100.

Upjohn 75th year
The Upjohn Company
Kalamazoo, Michigan

^{*}Trademark, Reg. U. S. Pat. Off.
[†]Trademark

COPYRIGHT 1961. THE UPJOHN COMPANY

Contents

Dr. Badger of Hobbs Elected President of New Mexico Medical Society	Page 307
Speakers Named for Ruidoso Summer Clinic	Page 308
Thoracic Trauma By R. G. McCorkle, M.D., Austin	Page 309
Clinical Evaluation of Weight Controls During Pregnancy By Elmore M. Campbell, M.D., and Arthur J. Gorman, M.D., Boston	Page 312
Treatment of Polyps of the Colon and Rectum By William G. Smith, M.D., El Paso	Page 317
Outpatient Evaluation of a New Antipruritic-Antiallergic Agent By Kenneth Logan, M.D., Pittsburgh	Page 321

COMING MEETINGS

Rocky Mountain Cancer Conference, Hotel Brown Palace West, Denver, July 12, 13, 1961.

Summer Clinic, New Mexico Chapter, American Academy of General Practice, Ruidoso, N.M., July 17-20, 1961. Fourteen hours Category I credit.

Postgraduate Course in Pediatrics, The University of Colorado School of Medicine, Stanley Hotel, Estes Park, Colorado, August 21-25, 1961.

El Paso Branch, University of Texas Postgraduate School of Medicine, El Paso County Medical Society's Turner Home, 1301 Montana Avenue, El Paso, Sept. 10, 1961.

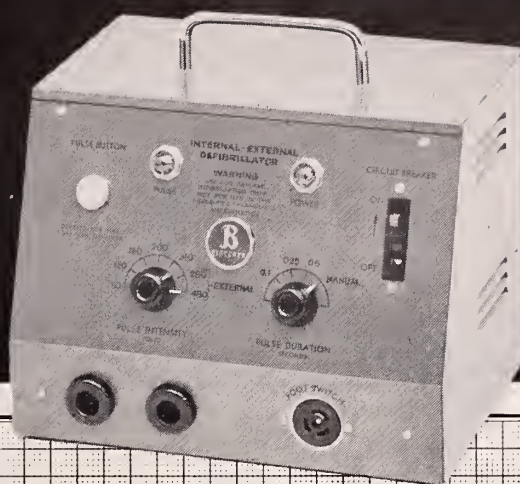
Western Association of Railway Surgeons, Annual Meeting, Holiday Hotel, Reno, Nev., Sept. 28-30, 1961.

Arizona Academy of General Practice, Annual Scientific Session, Ramada Inn, Tucson, Oct. 12-14, 1961.

Southwest Obstetrical & Gynecological Society, Eleventh Annual Meeting, Konakai Club, San Diego, Oct. 15-17, 1961.

Southwestern Medical Association, 43rd Annual Meetings, Tropicana Hotel, Las Vegas, Nev., Oct. 19-21, 1961.

NEW BIRTCHER EXTERNAL- INTERNAL Defibrillator



CAT. NO. 350N *Birtcher* LOS ANGELES

For all Technics of Resuscitation including Closed Chest Cardiac Massage

A two-in-one instrument for both technics of defibrillation and cardiac massage. The new Birtcher External-Internal Defibrillator provides automatic or manually timed and strength-controlled electrical shocks in two ranges: For *internal* defibrillation with the electrodes applied directly to the myocardium; for *external* defibrillation with the shock passing through the closed chest. The Johns Hopkins group advocates and has widely taught the technic of closed chest cardiac massage, a technic which makes it mandatory to have an external defibrillator readily at hand. Beck, Hosler and others who have advocated open chest cardiac massage indicate the urgency of having an internal defibrillator at hand. The new Birtcher External-Internal Defibrillator has precise power and range for both technics.

**ONLY
\$485**

*Complete with
2 External
and 2 Internal
Electrodes*

Many other Exclusive Features

INSULATED ELECTRODES FOR MAXIMUM OPERATOR SAFETY NO FUSES TO BLOW — HEAVY DUTY CIRCUIT BREAKER BUILT-IN

CAN BE FOOTSWITCH AS WELL AS MANUALLY OPERATED

U.L. Approved Explosion-proof Footswitch

FOR A DEMONSTRATION AND ADDITIONAL INFORMATION — CONTACT YOUR LOCAL SUPPLIER

IN ALBUQUERQUE

Allied Medical Supply, Inc.
1506 Central Avenue, S. E.
Albuquerque, New Mexico
CH 2-4795

IN TUCSON

Arizona Medical Supply Company
1027 East Broadway
Tucson, Arizona
MA 3-7481

IN PHOENIX

Allied Medical Supply of Arizona, Inc.
3633 West Orange Avenue
Phoenix, Arizona
YE 7-2831

IN LUBBOCK

Hunter Hospital Supply
814 Avenue Q
Lubbock, Texas
PO 5-9426

IN AMARILLO

Hunter Hospital Supply
617 West 7th Street
Amarillo, Texas
DR 3-3701



BIRTCHER

*One quarter century
of honest value —
Sincerely Presented*

Phone your ECGs — PHONATRACE^{T.M.} is coming — watch for it.



He needs his muscles working properly—
when they aren't, he needs

Trancopal

How to use ***Trancopal®*** Brand of chlormezanone in musculoskeletal “splinting”

Although “splinting” of a joint by skeletal muscle spasm is often protective, it can go too far or continue too long. Then spasm, pain and disuse may lead to wasting.

When you prescribe Trancopal, you can prevent “oversplinting.” Trancopal will relax the spasm, ease the pain and get the muscle working again. Relaxation generally begins within half an hour, and the effects of one tablet last from four to six hours.

In addition to relaxing the muscle, Trancopal will mildly tranquilize the patient, reducing the restlessness and irritability that so often accompany discomfort. With Trancopal, the patient can soon start purposeful exercise and physical therapy.

Trancopal has been found very effective in the treatment of patients with low back pain (lumbago), neck pain (torticollis), bursitis, fibrositis, myositis, ankle sprain, tennis elbow, osteoarthritis, rheumatoid arthritis, disc syndrome and postoperative muscle spasm. Trancopal is available in 200 mg. Caplets® (green colored, scored) and in 100 mg. Caplets (peach colored, scored), bottles of 100.

Dosage: Adults, 1 Caplet (200 mg.) three or four times daily; children (5 to 12 years), from 50 to 100 mg. three or four times daily.

Winthrop **LABORATORIES**
New York 18, N.Y.

1591M



ENDS ITCH FAST

ORAL ALLERCUR REACHES
THE SKIN IN 10 MINUTES*
FOR PROLONGED RELIEF

Allercur is the systemic answer to a dermatology problem. This single agent provides fast, prolonged relief of itching, both allergic and nonallergic, with only 2 to 4 tablets daily—without timed-release devices. Drowsiness and other side effects are of low degree. Unlike topical preparations, Allercur frees the patient of messy, inconvenient local application. Many risks of systemic phenothiazine and glucocorticoid therapy are decreased.

Effective: "An excellent or good antipruritic response occurred in 69 patients (79.5%). No toxic reactions occurred and there were virtually no side effects. Particularly notable were the absence of drowsiness and the rapidity with which the remission of itching occurred."² Allercur is also effective in the management of conditions such as nasal allergy, including seasonal hay fever.

CAUTION: If drowsiness occurs, patients should avoid activities demanding alertness.

AVERAGE DOSE: 2 to 4 tablets daily in divided doses.

SUPPLIED: Tan, scored tablets, each containing 20 mg. clemizole HCl, in bottles of 100.

REFERENCES: 1. Kimmig, J.: *Hautarzt* 3:414 (Sept.) 1952.
2. Butler, P.G.: *Western Med.* 1:16 (Nov.) 1960.
Bibliography on request.



New York 17, N. Y.
Division, Chas. Pfizer & Co., Inc.
Science for the World's Well-Being®



when allergies occur **R_x**

ALLERCUR*

*Reg. T. M., Schering A. G., Berlin

(clemizole HCl)



When the Mountain Did Go to Mahomet

For the parents of retarded or emotionally disturbed children, transportation expenses for enrollment and visits at a usually distant treatment center — added to the cost of residential treatment itself — could, on occasion, make it impossible for the parents to give their child the benefits of an individualized, twenty-four-hours-a-day program, under full professional guidance.

Cognizant of this factor, The Devereux Foundation has pioneered three branches, which, in effect, make it one of the most accessible residential treatment centers in the United States. At each branch outstanding therapeutic, educational, and vocational services are available.

Physicians and parents in the Southwest please write direct to Devereux Schools in Texas, Box 336, Victoria, Texas.

JOHN M. BARCLAY, Administrator
GEORGE A. CONSTANT, M.D., Psychiatric Consultant
WILLIAM A. GOODSPEED, M.S., Psychologist

THE DEVEREUX FOUNDATION

A nonprofit organization
Founded 1912
Devon, Pennsylvania
Santo Bararo, California
Victoria, Texas

SCHOOLS
COMMUNITIES
CAMPS
TRAINING
RESEARCH

HELENA T. DEVEREUX
Administrative Consultant

EDWARD L. FRENCH, Ph.D.
Director

Q
U
A
L
I
T
Y



P
A
P
E
R
S

EXAMINATION TABLE ROLLS

All Sizes Available
Smooth and Crepe Paper

PROFESSIONAL TOWELS

Best Quality Cellulose
White and Green

ASK YOUR SUPPLIER FOR TIDI.

TIDI PRODUCTS are always of best quality,
uniform, and economical in use.

Distributed throughout the USA
M'd. by TIDI PRODUCTS, Pomona, California

new...

SMALL

ODORLESS

EASY-TO-TAKE

TASTELESS

prulet

Mission
PHARMACAL CO.
SAN ANTONIO, TEXAS

Laxative

The active ingredient:
is analogous to a sub-
stance found in prunes.
Is not absorbed from
the digestive tract.



COMPOSITION PER LITER

Dextrose Gm.	Milliequivalents					Calories	mOs.
	Na ⁺	K ⁺	CL ⁻	Lact ⁻	HPO ₄ ⁼		
50	40	35	40	20	15	180	400

*Bicarbonate precursor

† Border, J., Tolbot, N., Terry, M., and Lincoln, G.: Use of Multiple Electrolyte Solution to Prevent Disturbances in Water and Electrolyte Metabolism, *Metabolism* 9:897-904 (October) 1960.

† FOR EFFECTIVE
FLUID MAINTENANCE
THERAPY

ISOLYTE[®] M



the finest
parenteral
system

DON BAXTER, INC.

GLENDALE, CALIF

Safety through simplicity

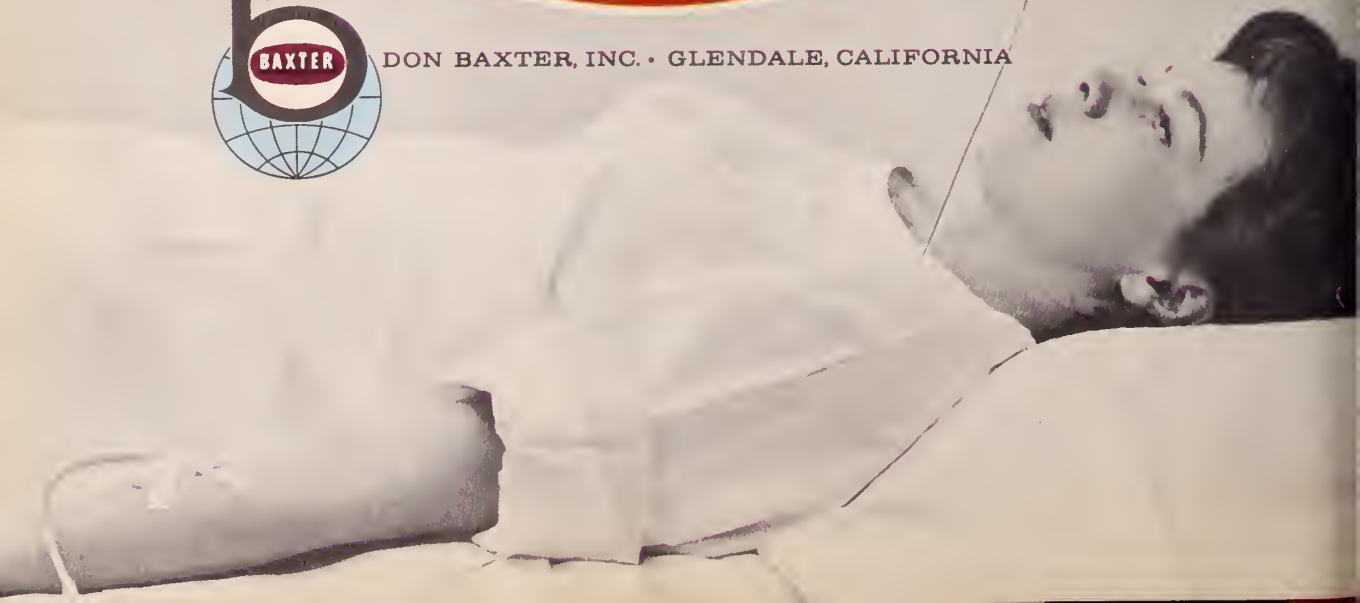


A visual index of safety



the finest
parenteral
system

DON BAXTER, INC. • GLENDALE, CALIFORNIA



in the wide middle region of pain

Percodan®

(Salts of Dihydrohydroxycodine and Homatropine, plus APC)

TABLETS

fills the gap
between
mild oral and
potent parenteral
analgesics¹⁻⁷

- acts in 5-15 minutes
- relief usually lasts 6 hours or longer
- toleration excellent... constipation rare
- sleep uninterrupted by pain

Each Percodan® Tablet contains 4.50 mg. dihydrohydroxycodine HCl, 0.38 mg. dihydrohydroxycodine terephthalate (warning: may be habit-forming), 0.38 mg. homatropine terephthalate, 224 mg. acetylsalicylic acid, 160 mg. acetophenetidin, and 32 mg. caffeine.



ENDO LABORATORIES
Richmond Hill 18, New York

*U.S. Pats. 2,628,185 and 2,907,768

*for fast and
thorough
pain relief*

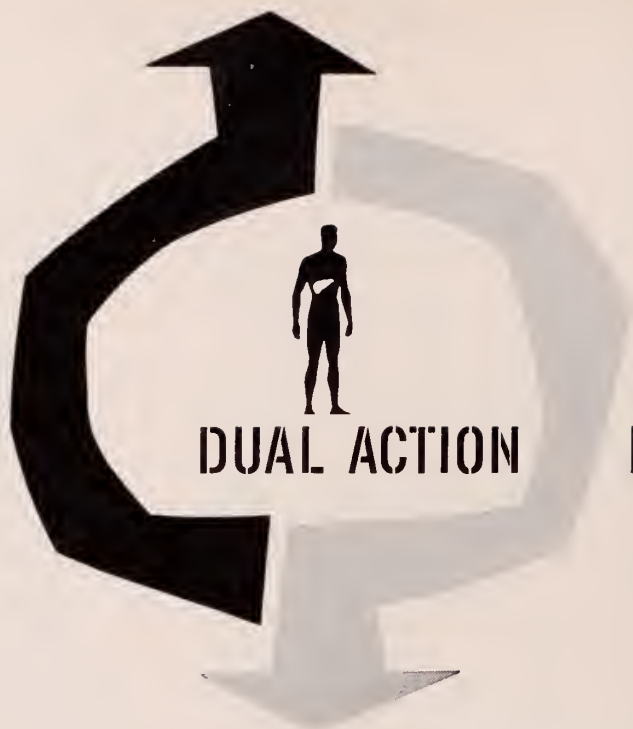
AVERAGE ADULT DOSE

1 tablet every 6 hours.
May be habit-forming.
Federal law permits
oral prescription.

Also Available

For greater
flexibility in dosage —
Percodan®-Demi: The complete
Percodan formula, but with
only half the amount of salts of
dihydrohydroxycodine
and homatropine.

1. Blank, P., and Boas, H.: Improved analgesia for moderate pain, *Ann. West. Med. & Surg.* 6:376, 1952.
2. Bonica, J. J., et al.: The management of postpartum pain with dihydrohydroxycodine (Percodan): Evaluation with codeine and placebo, *West. J. Surg.* 65:84, 1957.
3. Cass, L. J., and Frederick, W. S.: A controlled study in pain relief, *M. Times* 84:1318, 1956.
4. Chasko, W. J.: Pain-free dental surgery: Postoperative extension of the pain-free state, *J. District of Columbia Dent. Soc.* 31:3, No. 5, 1956.
5. Cozen, L.: *Office Orthopedics*, ed. 2, Philadelphia, Lea & Febiger, 1953, pp. 120, 138, 145, 156, 234.
6. Nicolson, W. P., Jr., and Skandalakis, J. E.: Control of postoperative pain, *J.M.A. Georgia* 46:471, 1957.
7. Piper, C. E., and Nicklas, F. W.: Percodan for pain in industrial practice, *Indust. Med.* 23:510, 1954; abstracted, *Clin. Med.* 3:1008, 1956, *Current M. Digest* 22:135, No. 3, 1955.



DUAL ACTION

IN HEPATIC COMA

ARGININE MONOHYDROCHLORIDE

R-gene®

CUTTER

REDUCES HIGH BLOOD AMMONIA LEVELS...
HELPS OVERCOME THE ACCOMPANYING ALKALOSIS

R-gene can be used to prevent impending hepatic coma and has dramatically increased the survival rate in patients in deep coma where the mortality rate is normally extremely high.¹ It provides arginine to detoxify circulating blood ammonia by accelerating its conversion to urea in the liver.¹⁻³ In addition, R-gene supplies chloride which combines with excess sodium to overcome the alkalosis induced by

vomiting which usually accompanies ammonia intoxication.⁴

Because of this dual action, R-gene is of potential benefit in all cases where elevated ammonia levels exert a toxic effect as in hepatic coma, ammonia intoxication due to ingestion of ammonium salts, acute hepatic insufficiency, and following massive upper gastrointestinal hemorrhage.

The R-gene package consists of a half liter Saftiflask® containing 400 cc. of a 5% solution of L-arginine monohydrochloride, a 100 cc. Ambot® of 50% dextrose,* and administration set. Each 100 cc. of R-gene contains: L-arginine monohydrochloride 5.0 Gm., non-pyrogenic distilled water q.s.

*Administration of dextrose in conjunction with arginine appears to aid the total ammonia utilization.

For maximum effectiveness, measures to reduce ammonia intake should be started with R-gene administration including reduction or withdrawal of protein intake, control of gastrointestinal bleeding, prompt removal of blood from the intestine, suppression of ammonia production in the intestine with large oral doses (4-12 Gm. daily) of neomycin.^{3,5}

1. Najarian, J. S., et al.: *Am. J. Surg.* 96:172, 1958. 2. Wolfe, S. J., et al.: cited by Fast, B. B., *Arch. Int. Med.* 10:467, 1958. 3. Editorial, *New England J. M.* 259:1181, 1958. 4. Editorial, *J.A.M.A.* 169:1076, 1959. 5. Britton, R. C.: *Connecticut M. J.* 22:537, 1958.



CUTTER LABORATORIES

BERKELEY, CALIFORNIA

Full information available
from your Cutter man,
or write to Dept. 1-7G

Dr. Badger of Hobbs Elected President of New Mexico Medical Society

Dr. W. E. Badger, Hobbs general surgeon, was elected president of the New Mexico Medical Society at its 79th annual meeting in Santa Fe May 17-20, 1961.

Other new officers are Dr. R. C. Derbyshire, Santa Fe, President-Elect; Dr. C. Pardue Bunch, Artesia, Vice-President; Dr. Hugh B. Woodward II, Albuquerque, Secretary-Treasurer; Dr. Omar Legant, Albuquerque, Speaker of the House; Dr. John Conway, Clovis, Vice-Speaker; and Dr. W. W. Kridelbaugh, Albuquerque, and Dr. Harry P. Borgeson, Alamogordo, Counselors. The retiring president is Dr. Allan L. Haynes, Clovis surgeon.

Albuquerque was selected for the 1963 convention. Next year's meeting is to be at Hobbs.

The society named Dr. William F. Wittwer of Los Lunas as New Mexico General Practitioner of the Year. Dr. Wittwer, who will be 90 this Fall, has practiced medicine for over 62 years at Los Lunas. Outstanding in Dr. Wittwer's career have been his care of patients during flood time of the Rio Grande, his treatment of the 1918 influenza epidemic victims, and his fight against pellagra.

Dr. Stuart W. Adler of Albuquerque received the A. H. Robins Company Award for community service. The pharmaceutical firm sponsored the

AWARD PRESENTED—Dr. Stuart W. Adler of Albuquerque, second from left, accepts the A. H. Robins Award for community service by a physician, presented during the 79th annual meeting of the New Mexico Medical Society in Santa Fe on May 17, 1961. Making the award is Dr. Allan L. Haynes of Clovis, retiring society president. Standing by, at left, is Dr. W. E. Badger of Hobbs, new president, and at right, Karl Eckhardt of Aurora, Colo., divisional sales manager for the A. H. Robins Company. New Mexico was the fourth state to present the A. H. Robins award, having been preceded by Arizona, Hawaii, and South Dakota.



award in New Mexico for the first time to acquaint the public with the fact that the doctor is a civic leader as well as "the indispensable member of the health team."

In its House of Delegates meeting the society voted that the Kerr-Mills law was the best way to handle medical needs of the aged and invited the state's two senators and two congressmen to join it in implementing the Kerr-Mills law in New Mexico. It urged "immediate action by the Department of Public Welfare in order that the Kerr-Mills law may be put into effect in New Mexico." During the meeting Jack Malone, chairman of the State Welfare Board and Dale Helsper, the newly appointed welfare director, told the society they would do all in their power to keep socialized medicine out of New Mexico and reiterated their statement that they are working on a plan to implement a program in New Mexico for the Kerr-Mills law.

The society also took issue with statistics cited

by Sen. Clinton P. Anderson in a letter to President Haynes last October 17. The letter from Senator Anderson read:

"It is the problem of hospitalization which bears so heavily upon older people. The best statistics available indicate that the average older person entering the hospital will have a bill of \$450 for his hospital alone, let alone the cost of his physician or surgeon which would run the bill up to \$1,000 on the average."

As a result of this statement, the Bernalillo County Medical Association at Albuquerque made a survey at Albuquerque's Presbyterian Hospital. Starting with January 1, a record was made of the first 100 patients 65 or over, their hospital charges and physicians' charges. The following was the result:

The average hospital charge was \$327; the average physician's bill was \$154; average total \$481, against Anderson's \$1,000.

Speakers Named For Ruidoso Summer Clinic

The fourth annual Ruidoso Clinics will be held July 17 through July 20, 1961, in Ruidoso, New Mexico, with sponsorship by the New Mexico Chapter of the American Academy of General Practice. The course will be Category I credit, twelve hours.

The following faculty members from the University of Texas Medical Branch at Galveston will speak:

Dr. James Leonard, Associate Professor of Medicine and Director of Cardio-Pulmonary Laboratory;

Dr. John Derrick, Assistant Professor of Surgery and Chief of the Cardiovascular Section;

Dr. W. J. Jenkins, Clinical Assistant Professor of Surgery (Orthopedics);

Dr. William McGanity, Professor of Obstetrics and Gynecology, Chairman of Department;

Dr. William Daeschner, Professor and Chairman, Department of Pediatrics.

Round table discussions will be as follows: Monday, The Obstetrical Patient with Pulmonary Disease; Tuesday, Bedside Diagnosis of Cardiac Conditions; Wednesday, Skeletal Growth Problems in Children; Thursday, Accidents and Fractures Peculiar to Children.

Pre-registration for the course is \$25. Information may be obtained from Dr. R. W. Briggs at 406 N. Pennsylvania Avenue in Roswell, N. M.

Thoracic Trauma

R. G. McCORKLE, M.D., *Austin*

Introduction

Management of thoracic trauma has become increasingly important in recent years. Civilian injuries are now more common than military accidents. Hunting, household injuries, automobile accidents, and acts of violence account for 85 to 90 per cent of the injuries. Because these accidents are not usual, and in many instances are not treated except in accident wards, a short review of the emergency management is advisable.

While physicians are aware of the serious complications which follow such injuries, few cases are seen by the same physician during the recovery period.

Decisions must necessarily be made correctly and without hesitation. Adequate help is nearly always available in large institutions; however, this is not always true in isolated communities where the physicians cope with this problem only occasionally.

General Classifications

The most common injuries can be identified as (1) simple rib fractures, (2) sternal fractures, (3) "crushed chest" and (4) penetrating intrapleural wounds. There may be single or multiple injuries, associated with any combination of intrathoracic trauma. For example, pneumothorax is frequently associated with a hemothorax. Rupture or penetration of the diaphragm, esophagus, or great vessels is either a single or a concomitant injury. Cardiac trauma is not usual, but should be considered as a possibility in chest trauma.

Unilateral or bilateral hemo-pneumothoraces are not uncommon complications. Emergency manage-

ment consists of insertion of an interpleural catheter with waterseal drainage without suction, and needle aspiration of pleural blood collection. Rapid expansion of the lungs is usual, except in cases of lung parenchymal laceration with continued leak. The laceration generally involves the alveolar and terminal bronchi segments; such bases require gentle, constant suction necessary for complete lung expansion.

Penetrating chest wounds are managed essentially in the same manner, and thru-and-thru wounds by open thoracotomy. Pleural fluid is removed by thoracentesis followed by instillation of antibiotics into the pleural space.

The diagnosis of continued intrapleural bleeding is an indication for open thoracotomy. An intrapleural hematoma is best treated by an open procedure.

Open Wounds

Open thoracic wounds, frequently called "sucking" wounds, require immediate closure and lung expansion. The defect may be closed with surrounding tissue or a large area closed with a polyethylene sheet or, in some instances, wire mesh. Intrapleural catheter drainage is necessary to obtain lung re-expansion. Occasionally, more than one catheter is required for drainage.

Pericardial and cardiac trauma or hemopericardium are managed as separate entities with serial electrocardiograms for detection of muscle ischemia and aspiration of the pericardial sac to reduce the fluid pressure and avoid tamponade. Techniques of such procedures are fully described in current texts.¹⁻²

The diagnosis of ruptured or lacerated dia-

phragm, bronchus, or esophagus calls for immediate surgical intervention and repair. Antibiotic coverage is essential, the drug of choice in each instance being recommended.

Roentgenograms of the thorax are essential for diagnosis. Various views should be taken when the patient's condition permits. Follow-up studied with X-rays are necessary for progress and further evaluation.

Antibiotic coverage is mandatory, and laboratory studies are often useful for confirmation of the clinical source and for developing bacterial resistance.

Other injuries should not be overlooked, as chest trauma frequently is associated with intra-abdominal injuries requiring surgical intervention. Even during the recovery period, the physician must be alert for later injuries, delayed splenic rupture, renal failure, and late vascular injuries.

Management or symptoms as they arise is important, as the patient's symptomatic complaints must be cared for as well as his more serious injuries.

Case Reports:*

(1) White female, 23, admitted April, 1956, discharged May 11, 1956. Gunshot wound, anterior left hemithorax, with hemopneumothorax. Treated with intercostal catheter, water sealed drainage, repeated thoracentesis, with antibiotics instilled in pleural space, attaining early lung re-expansion and preventing pleural clot. Roentgenogram chest May 4, 1956, lung field clearing without pleural resection. Chest roentgenogram May 11, 1956, lung fields clear.

(2) Male Negro, 25, admitted May 13, 1956, discharged May 23, 1956. Stab wound left chest, axillary line, anterior stab wound abdomen, requiring exploratory. Repaired diaphragm with splenectomy. Left pneumothorax treated with intercostal catheter with closed sealed drainage.

(3) Male Negro, 33, admitted March 17, 1956, discharged March 26, 1956. Gunshot wound left arm, abdomen, with penetration of diaphragm, liver, stomach, sigmoid colon, requiring laparotomy with bowel resection, repair of hepatic laceration and stomach laceration. Hemopneumo-

thorax treated with catheter drainage, closed system, with early re-expansion. Antibiotics through hospital courses.

(4) Male White, 36, admitted February 2, 1956, discharged February 9, 1956. Stab wound left axilla, third intercostal space, with multiple abdominal stab wounds. Exploratory laparotomy with splenectomy. Hemopneumothorax, treated with intercostal catheter, frequent thoracentesis and antibiotics with complete lung expansion.

(5) Male Latin American, 24, admitted January 7, 1956, discharged January 23, 1956. Stab wound left chest and left wrist with tendon laceration. Right thoracotomy, pericardial sac opened, myocardial wound of right ventricle and laceration of internal mammary artery ligation.

(6) Male Latin American, 30, admitted December 3, 1955, discharged December 28, 1955. Stab wound lower chest, pleura not penetrated, exploratory laparotomy for intra-abdominal lacerations.

(7) Male, White, 62, admitted June 18, 1955, discharged June 24, 1955. Stab wound over sternum and left sternomastoid muscle, treated by ligation of carotid branches involved. Chest roentgenogram negative. Pleura not penetrated.

(8) Male Latin American, 56, admitted April 29, 1955, discharged May 6, 1955. Stabbed in right chest and upper arm, with several right brachial artery; insertion of intrapleural catheter, right, with repeated bronchial aspirations for prevention of atelectasis.

(9) Male Latin American, 24, admitted July 10, 1954, discharged July 28, 1954. Stab wound left upper quadrant; diagnosis: hemopneumothorax, laceration of spleen, small laceration left kidney. Treated intrapleural drainage with catheter, under water seal drainage, exploratory laparotomy with splenectomy and repair of renal laceration.

(10) Male Latin American, 83, admitted December 3, 1956, discharged January 2, 1957. Multiple gunshot wounds, self inflicted, chest wall, subcutaneous and deep, nonpenetrating into pleural, brachial artery severed. Primary repair brachial artery, debridement of soft tissue wounds treated as septic wounds.

(11) Male Latin American, 26, admitted June 20, 1954, discharged June 29, 1954. Penetrating

*From the author's private practice and the First Thoracic Service, Robert B. Green Hospital, San Antonio; Author, co-chief, 1954-1956.

wound upper abdomen, with laceration of liver and pancreas. Stab wound of heart. Heart wounds treated by pericardial tap. Exploratory laparotomy for visceral lacerations with repair.

(12) White female, 27, (previously reported), admitted October 25, 1955. Automobile accident, head and face laceration, emphysema neck with diagnosis of tracheal fracture. Negative chest roentgenograms, antibiotic, October 29, 1955, hoarseness improved. November 26, 1955, cervical emphysema disappeared; recovered, no cord paralysis, near normal voice.

(13) White male, 31, admitted May 29, 1955. Fracture sternum, multiple rib fractures, left hemothorax, laceration scalp with hematoma. Treatment consisted of sternal traction, intercostal catheter, left, thoracentesis for fluid. April 2, 1955, chest tube out, lung expanded, electrocardiogram negative for myocardial damage. April 7, 1955, wounds dressed, all healing and clean. April 11, 1955, discharged from hospital. April 16, 1955, clear lung field on fluoroscopy. April 30, 1955, rib calcification at fracture sites. March 3, 1956, no residual lesions, rib fracture healed.

(14) White male, 12, admitted August 5, 1955. Gunshot wound right thorax, massive, August 9, 1955, instilled Varidase® into thorax with thoracentesis, straw colored fluid, with antibiotics. August 18, 1955, febrile, considerable pleural reaction, right thoracentesis nonproductive. August 27, 1955, right lung 60 per cent expanded on fluoroscopy. October 17, 1955, lung field completely expanded. Roentgenogram, December 17, 1955, lung fields clear, adhesion right diaphragm, no limitation of pulmonary function.

(15) White male, 46, auto accident, February 5, 1955. Abrasions head and neck, cerebral concussion, mild multiple rib fracture left (6), fracture tibia and fibula, compound, comminuted. February 6, 1955, left pneumothorax, insertion intercostal catheter under water seal drainage, posterior parascapular swelling. May 27, 1955, healed fractures on roentgenogram, lung fields clear on auscultation. May 27, 1955, patient discharged, improved.

(16) White male, 36, admitted October 25, 1955, automobile accident, three ribs fractured,

anterior-lateral, intercostal block, left, sandbag right hemithorax for paradoxical motion. October 29, 1955, pleural reaction right on roentgenogram, no fluid, contusion and hematoma lung, massive opacity of right hemithorax. November 5, 1955, paradoxical chest motion subsiding on external compression. November 8, 1955, discharged from hospital improved. Expiration and inspiration not limited. January 17, 1956, callus formation of rib fractures. May 16, 1955, lung fields clear, rib fracture healed, no pleural reaction on roentgenogram, brachial neuritis of right arm involving ulnar, subsiding. Patient improved. Did not return for followup.

(17) Male Latin American, 23, admitted July 31, 1955, discharged August 5, 1955. Stab wound left chest, with shortness of breath, pain in lower quadrant. Exploratory laparotomy, with diaphragm laceration involving spleen and stomach. Repair of diaphragm and stomach and splenectomy, pleura not entered.

(18) Male Negro, 37, admitted July 2, 1955, discharged August 10, 1955. Gunshot wound, left costal margin involving chest wall and abdomen. Exploratory laparotomy with repair of stomach and thoracentesis for hydropneumothorax, followed by empyema left, and open drainage. Thoracentesis of 100-150-150 cc., with purulent fluid on separate dates prior to open drainage. Roentgenogram diagnosis of pleural reaction with fluid secondary to traumatic pneumonitis.

Summary

The article describes certain basic procedures and complications in the diagnosis and management of chest trauma. Intercostal catheters were removed as soon as drainage ceased and chest films showed pleura clearing and lung re-expansion. Antibiotics were used in each case until temperature was normal and clinical finding showed no evidence of complications. Eighteen cases of thoracic trauma with review of management are presented. There were no deaths.

405 W. 15th Street

References

- (1) Barrie, John: The Management of Emergencies in Thoracic Surgery. Appleton-Century-Crofts, Inc., New York, 1958.
- (2) Lindskog and Liekon: Thoracic Surgery and Related Pathology. Appleton-Century-Crofts, Inc., New York, 1953.
- (3) Lederle Laboratory Division, New York, N. Y.

Clinical Evaluation of Weight Controls During Pregnancy

ELMORE M. CAMPBELL, M.D.*

ARTHUR J. GORMAN, M.D.**

Boston

Since antiquity, it has been recognized that an increased intake of food has led to obesity. Modern prenatal care has shown the value of controlled weight gain in pregnancy, so that regular measurements of body weight during pregnancy is most valuable clinically. During the prenatal period excessive weight gain has been shown to be undesirable, avoidable, and an augury in certain cases of impending toxemia. It is well known that obese pregnant women face a number of increased hazards in child-bearing, many of which seem to be related to her excessive size.

At this point it is wise to define some of the terms which we will be using. It is rather strange that the word "obesity" was the original Latin "obesus" which actually meant leanness, but gradually the term came to have the opposite meaning; that is, of being overweight.

Hunger is a physiological complex, state or sensation evoked by the depletion of nutrients which manifests itself by an uncomfortable epigastric pressure and pain, and its awareness is made through gastric contractions. Appetite is the desire for food and is a matter of effect. It may be measured by the amount of food eaten.

Healthy men and animals seem to have a remarkable consistency in maintaining their weight. Yet, the prevalence of obesity in this country is on the increase and is accompanied by an increased mortality from a number of degenerative diseases, as was shown by life insurance examinations.

Obesity is the most frequent medical defect for which standard risk insurance is refused. Statistics have demonstrated the adverse influence of obesity on such diseases as diabetes, heart disease, chronic nephritis, hypertension, pulmonary emphysema, cirrhosis, venous thrombosis and embolism, and toxemias of pregnancy.

Some have gone so far as to call obesity the number one preventable public health disease, since there are at least 30,000,000 people in the United States that are overweight.

Diagnosis

What is obesity? The definitions usually given may be simplified to the abnormal excess of adipose tissue. A man may be considered as definitely obese if his total body fat content exceeds 25 to 30 per cent of total body weight, and a woman if it exceeds 30 to 35 per cent.

A very practical guide and aim for the patient should be the patient's weight at age 25 if a male and 21 if a female. The automatic referring to a height-weight table is unsatisfactory since it tends to include too many extremes. Taking the patient's own "normal" weight as a target gives him a sense of true identification.

A family dietary history may reveal obesity in the parents or grandparents, and habit and early childhood eating patterns cause many people to eat frequently and abundantly.

How can we make the diagnosis of obesity? Research laboratories with extensive apparatus can weigh a subject in air and then totally submerged in water with a correction made for the residual air. Then, by knowing that fat has a

*Visiting Obstetrician and Gynecologist, St. Elizabeth's Hospital, Boston, and St. Margaret's Hospital, Boston.

**Senior Visiting Obstetrician and Gynecologist, St. Elizabeth's Hospital, Boston.

density of 0.97 and the remainder of the body a density of about 1.1, it is possible to calculate the percentage of fat when the total density is known. Since about one-half of the body fat is deposited in the subcutaneous tissues, it can be measured by roentgenograms or special calipers which measure specific skin fold areas.

By far the easiest way to make the diagnosis of obesity is the simple observation of the undressed subject, and if necessary one can do the "pinch test" in appropriate places, such as the area over the triceps muscle on the back of the upper arm or the tip of the scapula on the back. The patient may take as a practical guide that he should not be able to pinch more than 1 to 1.5 inches of a skin fold on the abdomen below the navel.

Psychological Aspect

Most people approach the problem of weight reduction not from the health angle but from the aesthetic view point of personal appearance. Such people fail to realize that weight reduction which is kept at a normal level adds longevity to their life span. Modern American society looks upon the Pickwickian fat boy as a weak-willed, lazy glutton, an object of humiliation and ridicule.

This attitude often causes the obesity to be self-perpetuating, since during grief and depressions there is an associated elevation in weight, and during episodes of frustrations and tensions there is decreased activity.

There was a period when fat people were rather pleased with themselves, and the world considered them to be rather jovial, cheerful, and easygoing. They still may be jolly, but the insurance companies do not share their optimism.

Classification

The old, simple differentiation of obesity into (1) alimentary, (2) metabolic, and (3) endocrine has now been reclassified by Mayer:

Genetic: In congenital adipose macrosomia; in monstrous infantile obesity; associated with Laurence-Moon-Biedle syndrome; associated with hyperostosis frontalis interna; associated with von Gierke's disease; in familial hypoglycemia (congenital lack of alpha cells), in genes predisposing to obesity.

Of hypothalamic origin: In adiposogenital dystrophy, with discrete or diffuse hypothalamic injury; occasionally with panhypopituitarism and macrolepsy; Kleine-Levin syndrome.

Of other central nervous system origin: After frontal lobotomy; in association with cortical lesions, particularly bilateral frontal lesions.

Of endocrine origin: With insulin-producing adenoma of the islets of Langerhans; with diffuse hyperplasia of the islets; and in association with diabetes; with chromophobe adenoma of the pituitary without hypothalamic injury; in Cushing's syndrome (hyperglycorticoidism); from treatment with cortisone or adrenocorticotrophic hormone; the Bongiovanni-Eisenmenger syndrome; in disorders of the reproductive system, including gynadrisim and gynism, aspermatogenic gynecomastia without aleydigism, male hypogonadism, (sometimes with bulimia), postpuberal castration, menopause, ovarian disorder, paradoxical (Gilbert-Dreyfus) disorder.

Otherwise induced: By immobilization in adults and children; psychic disturbance; social and culture pressure.

In spite of the above classification, which seems to be heavily loaded with endocrine imbalances, it is rare to find a primary endocrine disturbance as a cause of obesity or emaciation. Yet, due to misconceptions, many obese subjects are referred to the endocrinologist.

Appetite

The appetite, in most people, is accurately related to metabolic requirements, and despite variations in seasonal and metabolic needs a fairly constant weight is maintained. There is no mystery about it—fat only comes from excess food intake, whereas a prolonged deficit will cause emaciation.

We hear constantly from the other side of our consultation desk the familiar complaint of the obese subject, "But, doctor, I hardly eat anything, but still I am fat." Yet these people do eat more, for stool examinations on such patients reveal the fact that they do not absorb any more fat per ounce of food eaten than do the lean subjects. These obese subjects have been shown to have

an appetite mechanism which requires a greater amount of food for satiation, and still a calorie is a calorie.

Pregnancy

Modern mothers are not anxious to accept obesity as the price for child-bearing, for the control of weight gain in pregnancy is a firmly established norm in the modern prenatal course. Most obstetricians have found that the weight gain during the entire pregnancy period should be approximately 20 lbs. The obese pregnant patient presents to the accoucher a number of complications during pregnancy, parturition and puerperium which are intimately connected to her excessive size. She inherits a higher incidence of toxemia, with its accompanying hazards of prematurity.

A relative dystocia is often found due to the excessive weight gain or to the large infant. A higher incidence of maternal and fetal morbidity and mortality has been recorded for these patients. An increase in the abnormal presentations and operative intervention has been brought out by many authors.

Waters found that the average weight gain in 3,230 cases of normal pregnancies was 23.2 lbs.; and Chesley in 11,960 cases, 23.1 lbs. — ranging from 13.3 lbs. to 37.4 lbs. How then is this weight distributed?

Chesley has shown the reproductive weight (baby, placenta and amniotic fluid) to be 11.18 lbs., and sometimes this weight is more than the total weight gain of the mother. The uterus and adnexa increase on the average of 2.5 pounds, and two to four pounds is found in the enlargement of the breasts. The remaining seven pounds is found in the increased water retention with its electrolytes and protein (nitrogen) retention.

The weight increment by trimesters (13.3 weeks) is variable. During the first trimester only one to three pounds is the medically approved weight gain during the latter weeks, for the middle weeks tend to compensate for the loss due to early anorexia and hyperemesis. The medically accepted weight gain during the second and third trimesters is eight and twelve pounds respectively. One would normally expect a greater increase in the third trimester since the fetus's absolute

growth is greatest then; but, perhaps, the second three months is still concerned in counteracting the weight loss due to early nausea and vomiting.

Realizing that excessive weight gain during the prenatal period is undesirable and avoidable, many drugs have been used to curb the patient's appetite, but with time their popularity decreased. Thyroid hormone had the danger of thyrotoxic symptoms and several organic diseases made thyroid extract contraindicated. Belladonna preparations were used to inhibit appetite by causing loss of pleasure in eating. Sympathomimetic drugs, especially amphetamine, caused depression of appetite by a central phenomenon, but the patients developed a quick tolerance. Dinitrophenal had dangerous side effects.

The true appetite depressant drug which specifically reacts on the neutral pathways to the hypothalamus has yet to be discovered. In addition, it has been found that crash diets cause too rapid a weight loss with undesirable side effects of fatigue, nervousness and inability to concentrate, with a resultant rebound to pre-diet weight; and these vast weight swings did more harm to the body than the pre-diet obesity.

Liquid diets are contraindicated during pregnancy because they contribute to an increase of body fluid and cause constipation and/or diarrhea among some cases.

Methods and Materials

Because of the appetite control mechanism suggested by Mayer and others, we include in our study of pregnant subjects a depressant designed to elevate blood sugar levels, which has been reported upon as a non-stimulant to neither the digestive tract or to the central nervous system. This was given in the form of a low calorie candy-type agent containing vitamins and minerals.

The 105 women in the series were divided into groups of 35 subjects each. Group A was given the low calorie, candy-type, vitamin-mineral depressant. Group B was placed on dextro-amphetamine sulfate. Group C was on a diet alone. There was no selection in the patients, for they were taken in consecutive order as they were booked for prenatal care, and then they were alternated into one of the three groups.

It was fortunate that there were no patients found with a serious illness, chronic disease, a hematological problem (the average hemoglobin determination was 80 per cent or 12 grams), toxemia, an appetite problem or food faddism (as pica). In our control study many of our patients were seen as early as five to six weeks after gestation.

Some miscarried; and when this happened, the patient was dropped from the study and her case assigned to the next new patient. Others were discontinued when they experienced untoward side effects or when the patient developed a tolerance. The entire group was on a standard diet regularly used in our obstetrical practice.

Of course, there were additional routine prenatal medications given. All were placed on broad spectrum nutritional supplements and iron; and during the first 16 weeks of pregnancy, stilbesterol was administered to lessen the possibility of miscarriage.

All patients included in this study were examined every two weeks.

The average distribution of obstetrical patients is that 30 per cent are primigravida and 70 per cent multigravida. This was also borne out in our series.

In Group A, 11 patients (31 per cent) were primigravida and 24 (69 per cent) multigravida. In Group B, 9 (26 per cent) were primigravida and 26 (74 per cent) multigravida. In the control Group C where diet alone was used, nine (26 per cent) were primigravida and 26 (74 per cent) were multigravida.

In the Group A patients, the pre-pregnancy weight showed that 17 women were underweight by an average of 8.8 pounds; and 18 were overweight, averaging 21 pounds. Group B had 18 patients underweight by an average of 14 pounds; and 17 were overweight, averaging 10 pounds. In the Control Group C, 17 patients were underweight by an average of nine pounds; and 18 were overweight, averaging 27 pounds.

Results

The overall results are tabulated in Table 1. The average total weight gain for the three groups during the prenatal period was: Group A — 20.8 pounds, Group B — 20.1 pounds, Group C (Con-

	GROUP A	GROUP B	GROUP C (CONTROL)
NUMBER OF PATIENTS	35	35	35
AVERAGE PRENATAL WEIGHT (LBS.)	136.7	139.5	145.0
AVERAGE TOTAL WEIGHT GAIN (LBS.)	20.8	20.1	30.1
AVERAGE WEEKS OF OBSERVATION	32.1	30.9	33.0

Table I

	WEIGHT GAIN BY TRIMESTERS (13.3 WEEKS)					
	I		II		III	
GROUP A	4.6 LBS.		8.2 LBS.		8 LBS.	
GROUP B	10	LBS.	5	LBS.	4.9	LBS.
GROUP C (CONTROL)	9	LBS.	10	LBS.	11.1	LBS.

Table II

trols) — 30.1 pounds. In the latter group, the weight gain range was much greater, varying from 10 to 35 pounds; whereas in the first two groups weight gain was more stable.

There were a multitude of reactions and complaints among Group B subjects. The reactions were recorded as: dryness of mouth and nose, cramps in legs, blurred vision, insomnia, and headaches; but there was no pronounced increase in the blood pressure, cardiac or respiratory rates.

The following are direct quotes from the records: "nervousness," "head foggy," "jittery," "jumpy," "difficulty in getting to sleep," "generalized tremors," and "hopped-up."

We found that the appetite control mechanism designed to elevate blood sugar levels had a wide margin of safety. This low-calorie, candy-type appetite depressant containing vitamins and minerals (Group A, Ayds) produced no digestive or central nervous system side effects in our controlled group of pregnant subjects. It suppressed the appetite satisfactorily, had a high degree of patient acceptance and created a feeling of well-being.

The post-partum weight loss was dependent upon the type and amount of weight gain. The poundage in excess of 18 pounds was retained. The water gainers more quickly lost weight and sooner approached their prenatal weight than did the tissue gainers. In pregnancy there is an increase in the interstitial water volume. With the removal of the placental steroids there is an almost immediate compensatory diuresis. This was true also among those subjects who showed no visible edema since the body can retain water up to 10 per cent of its weight before edema becomes evident.

In Groups A and B subjects following parturition, their weight returned to or below their usual weight within 14 days provided they remained on their medication and diet. In Group C patients they retained an average of 3.6 pounds in excess of their normal increment.

Conclusions

We control-studied a large number of patients from the onset of pregnancy through delivery and then for several weeks afterward when the subject is most anxious to regain her figure. We found that the diet carefully tailored to day-by-day and month-by-month requirements is the only present answer.

In the majority of cases appetite depressants had to be used, or weight gain became excessive. Selection of an appetite depressant is most important during this period. Many drugs produce a variety of side effects among pregnant subjects, including fatigue, nervousness, nausea, inability to concentrate, insomnia, constipation, diarrhea, and even a loss of pleasure in eating.

Liquid diets are contra-indicated during pregnancy on a sustained basis. They contribute to an increase in body fluid and cause constipation in some cases and diarrhea among others.

Unfortunately the true appetite depressant drug which specifically reacts on the neural pathways to the hypothalamus of the brain has yet to be discovered. Until such a discovery is made, old-fashioned will-power is the best appetite-control for the pregnant subject.

We found that the proper weight gain should be restricted to one to four and one-half pounds during the latter weeks of the first trimester. Dur-

ing the second and third trimesters, weight gains should be restricted to eight and 12 pounds respectively. Group A subjects alone (as shown in Table III) followed this medically desired weight gain program. While Group B subjects gained less

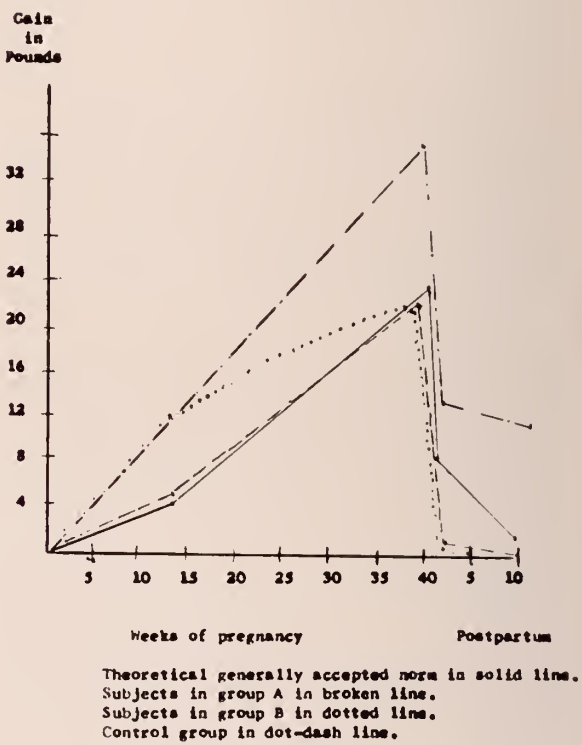


Table III

GROUP	NO. OF ORIGINAL PATIENTS	NO. DISCONTINUED	REASON FOR DISCONTINUANCE	AVERAGE LENGTH (IN WKS) OF REPORTED STUDY
A	41	6	MISCARRIAGE	31.6 WKS.
B	48	13	4 MISCARRIAGE 9 CNS SYMPTOMS*	30.1 WKS.
C	39	4	MISCARRIAGE	32.4 WKS.

*SLEEPLESSNESS
"NERVOUSNESS"

Table IV

weight than the Control Group C, they made their greatest gains during the first trimester when weight control should be the most guarded and weight gain the lowest. Group A subjects gained 4.6 pounds during this period while Group B subjects gained 10 pounds. This is the period of greatest danger when miscarriage is most frequent

and toxemia is most apt to develop — the latter being caused in some instances by excessive weight gains. The multiple side effects and drug immunity noted among Group B subjects led to continual replacements of patients.

We also noted in the post-partum period that weight gained in excess of 20 pounds was retained by all subjects. Patients who had restricted their weight gain to 20 pounds or less, regained their normal weight rapidly.

(We are indebted to Dr. Ralph Angus of St. Elizabeth's Hospital for his assistance.)

Bibliography

- Ackerknecht, E. H., The History of Metabolic Diseases, Ciba Symposia, 6, 1838-1844, June-July 1944.
- Albrecht, F. K., The Use of Benzedrine Sulfate in Obesity, Ann. Int. Med., 21, 983-989, Dec., 1944.
- Alexander, S. A., and Downs, J. T., Influence of Weight Gain in Pregnancy, A Review of 1000 Private Cases, Am. J. Obst. & Gynec., 66, 1161, 1953.
- Barborka, C. J., Obesity, M. Clin. North America, 21, 23-39, Jan. 1957.
- Beyer, K. H., The Effect of Benzedrine Sulfate on Metabolism and the Cardio-vascular System in Man, J. Pharmacol. & Exper. Therap., 66, 318-325, July 1939.
- Birnberg, C. H., Abital, M.M., Weight Control in Pregnancy, J. Obs. & Gyn., 11, 4, April. 1958.
- Bram, I., Psychosomatic Obesity, M. Rec. 157, 673-676, Nov. 1944.
- Brobeck, J., Neural Factors in Obesity, Bull. N. Y., Acad. Med., 33, 762, 1957.
- Bruch, H., Obesity in Relation to Puberty, J. Pediat., 19, 365-375, Sept. 1941.
- Bruch, H., The Importance of Overwtg, W. W. Norton & Company, 1957.
- Bulger, H. A., Endocrine Obesity, M. Clin. N. A., 20, 269-378, Sept. 1936.
- Campbell, W. R. and Maltby, E. J., On the Significance of Respiratory Quotients After the Administration of Certain Carbohydrates, J. Clin. Investigation, 6, 303-317, Oct. 1928.
- Chesley, L. C., Weight Changes & Water Balance in Normal and Toxic Pregnancy, Am. J. Obst. & Gynec., 48, 565, 1944.
- Diddle, A. W., The Obese Obstetric & Gynecologic Pt., Obst. & Gynec., 3, 573, 1954.
- Douglas, G. W., and Scadron, E. N., The Influence of Obesity in Pregnancy, M. Clin. N. Am., 35, 733, 1951.
- Dublin, L. I., The Influence of Weight on Certain Causes of Death, Human Biol., 2, 159-184, May 1930.
- Eastman, N., Panel Discussion, Diets, Obstetrics, Maryland M. J., 2, 176, 1953.
- Emerson, G. A., Amphetamine for Obesity, J.A.M.A., 122, 268, May 1943.
- Faust, R. A., Complications of Obesity, New Orleans M. & S. J., 98, 502-507, May 1946.
- Fish, J. S. et. al. The Relationship of Pregnancy Weight Gain to Toxemia, Am. J. Obs. & Gynec., 78, 743-751, Oct. 1959.
- Greene, J. A., The Effect of Belladonna on the Appetite of Patients with Obesity and with Other Diseases, J. Lab. & Clin. Med., 26, 477-478, Dec. 1940.
- Greene, R., Adiposity, Post Grad. M. J., 22, 169-181, June 1946.
- Hamburger, W. M., Psychological Aspects of Obesity, Bull. N.Y.A. Med., 33, 771, 1957.
- Janowitz, H.D., Physiologic Regulation of Food Intake, Am. J. Med., 25, 327, 1958.
- Kalb, S. W., Amphetamine (Benzadrine) Sulphate & Thyroid Extract in the Treatment of Obesity: Observations on 500 Cases, J. M. Soc. N. Y., 39, 74-75, Feb. 1942.
- Kurlander, A. B., Abraham, S., and Rion, J., Obesity & Diseases, Human Biol., 28, 203-216, 1956.
- Matthews, H. B., and Der Brucke, M. C., "Normal Expectancy" in the Extremely Obese Pregnant Woman, J. A.M.A., 110, 554-558, Feb. 1938.
- Mayer, J., Correlation Between Metabolism & Feeding Behavior & Multiple Etiology of Obesity, Bull. N.Y.A. Med., 33, 744, 1957.
- Mayer, J., Regulation of Energy Intake and the Body Weight, The Glucostatic Theory and the Lipostatic Hypothesis, Ann. of the N.Y. Ac. of Sci., 63, 15, 1955.
- Mayer, J., Obesity, Etiology & Pathogenesis, Postgraduate Med., 25, 623-634, May 1959.
- Odell, L., and Mengert, W. F., Overweight Obstetric Patient, J.A.M.A., 128, 817, 1945.
- Petry, J.A., Obesity with Pregnancy, Obs.-Gynec., 7, 299-303, 1956.
- Poindexter, A., Appetite Suppressant Drugs, Current Therapeutic Research, 2, 354-364, Aug. 1960.
- Prinzmetal, M., and Allec, C. A., The Central Nervous System Stimulant Effects of Dextro-amphetamine Sulfate, Am. J.M. Sc., 200, 665-673, Nov. 1940.
- Ryneerson, E. H., and Gestineau, C. F., Obesity, Charles C. Thomas Pub., 1949.
- Tepperman, J., Etiologic Factors in Obesity & Leanness, J. Perspect. Biol. & Med., 1, 293, 1958.
- Thompson, A. M., and Billewicz, W. Z., Clinical Significance of Weight Trends During Pregnancy, Brit. M.J., 1, 243-247, Feb. 1947.
- Thompkins, W., Wiehle, D., The Underweight Patient as an Increased Obstetric Hazard, Am. J. Obst. & Gynec., 69, 114-123, Jan. 1955.
- Waters, B. G., Weight Studies in Pregnancy, A.J. Obst. & Gynec., 43, 826, 1942.
- Wiehle, D., and Thompkins, W. T., Size of Babies of Obese Mothers Receiving Nutrient Supplements, Milbank Mem. Fund Quart., 32, 125, 1954.

Treatment of Polyps of the Colon and Rectum

WILLIAM G. SMITH, M. D., *El Paso*

Unless defined, the term "polyp" can lead to ambiguity and confusion. Hereinafter, the term polyp will be used to designate any projection into the bowel lumen, sessile or pedunculated, which grossly appears to be a new growth arising from mucosal epithelium and which is not obviously malignant to gross inspection. This definition limits use of the term to a gross, clinical finding and

carries connotations of benignancy; it does not, however, exclude the possibility that in situ or invasive malignancy might be found on microscopic examination of tissue sections. Without going into detail, suffice it to say that there are grossly discernible features in polyps which suggest an origin from mucosal epithelium and which suggest benignancy or malignancy.

Villous (or papillary) adenomas and familial multiple polyposis are disease entities which represent very special aspects of the polyp problem. Specific consideration of these two entities has been excluded from the comments which follow.

Carcinoma All-Important

It is a well documented fact that many polyps are histologically heterogenous and may, on microscopic examination, show variable combinations of adenomatous tissue, adenocarcinoma in situ, and invasive carcinoma (1). The fact that invasive carcinoma may be present in any polyp is sufficient reason for urging the removal and histological examination of all polyps at the time of their discovery. The additional reason is sometimes given that even a completely benign polyp (all adenomatous tissue) will eventually become an invasive carcinoma if not treated (2). Although an imposing array of observations tend to support this contention, it should be pointed out that none of these observations offers conclusive proof of the possibility of such a transformation.

As implied in the above paragraph, from the practical standpoints of threat to life and extent of treatment, the presence or absence of invasive carcinoma in a polyp is all-important. Whereas in-situ new growths whose cytology and architecture suggest an invasive potential are a fairly common occurrence in many parts of the body, it is almost certainly true that such tumors do not constitute a threat to life unless and until they invade locally. Penetration of the basement membrane is commonly considered a good criterion of local early invasion. Unfortunately, this criterion is difficult or impossible to apply in diagnosing early invasion in polyps of the large bowel. Carcinoma of the colon usually retains many of the structural characteristics of its tissue of origin; it is not a markedly anaplastic lesion. When invading elements consist of relatively intact acini or glands, penetration of the basement membrane does not occur. For this reason, many pathologists insist that glandular structures must have penetrated the muscularis mucosa before a diagnosis of invasive carcinoma can be made in a colonic polyp. Since the muscularis mucosa is not always well developed in colonic polyps, even this criterion may prove difficult in practical use. These considerations are only a few of the many that plague

pathologists in attempting to decide about the presence or absence of invasive malignancy in colonic polyps. This subject has recently been discussed in an excellent review by Starr (3).

As reported in the literature, the incidence of malignancy in colonic polyps varies widely (1.8 percent-17 percent). The disparity in reported figures is undoubtedly due to the many variables involved in computing them (4, 8).

Anyone who undertakes to treat polyps of the colon and rectum must be able to decide when local removal is sufficient and when more radical resection is indicated. Such a decision is usually based on six considerations:

(1) The presence or absence of invasive malignancy. (2) The size of the polyp. (3) The location of the polyp. (4) The number of polyps. (5) Whether or not the patient has had previous polypectomies. (6) The age of the patient. These factors will be discussed at greater length below.

The Treatment of Polyps Within Reach of the Sigmoidoscope

Approximately 75 percent of polyps that develop in the colon and rectum occur within reach of the standard 25 cm. sigmoidoscope. All polyps discovered at sigmoidoscopy should be treated.

In general, those polyps whose greatest diameter does not exceed 5 mm. may be safely fulgurated without biopsy. The objection may be raised that invasive malignancy has been reported in lesions of this size. Turell recently reported invasive malignancy in a lesion 2.5 mm. in diameter (5). The author has treated a polyp showing invasive malignancy whose greatest diameter was only 5 mm. (Fig. 1). In spite of these isolated instances, the occurrence of invasion in polyps of the size under discussion is extremely rare. Further, in both instances cited herein, the polyps were successfully treated by local therapy (fulguration).

Most polyps less than 5 mm. in diameter appear as tiny sessile projections and are frequently referred to, rather disparagingly, as sessile mammillations or mucosal excrescences. Although there is no question that some of these tiny lesions represent lymphoid aggregates, there is equally no question that many of them are small epithelial neoplasms. Since gross distinction is impossible, and since biopsy frequently leads to annoying



Fig. 1.

Photomicrograph showing low grade but infiltrating adenocarcinoma. Tissue section was made from a benign appearing mammillation 5 mm. in largest diameter. The lesion, situated at 20 cm. from the anal verge, was treated by fulguration. Patient is an 86 year old male.

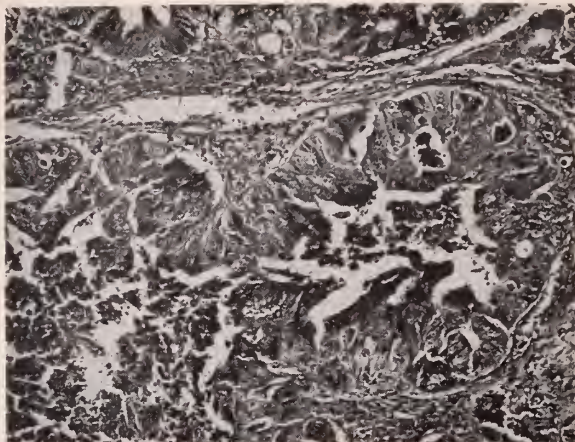


Fig. 2.

Photomicrograph showing anaplastic, invasive adenocarcinoma. Tissue section was made from a benign appearing, semi-pedunculated growth 2 cm. in diameter. The lesion, situated at 17 cm. from the anal verge, was initially removed in toto by snare excision. Subsequent anterior resection and pathological examination revealed it to be a type B, Duke's.

mucosal bleeding, it would seem best simply to fulgurate these tiny lesions at the time of discovery.

A polyp whose largest diameter falls between 5 and 10 mm. is probably ideally treated by snare excision, but in most instances "fractional" biopsy and fulguration are probably sufficient. Attempts at fractional biopsy in lesions this size usually result in the removal of a major portion, or all, of the polyp. Should examination of tissue sections subsequently show invasive malignancy, an appropriate radical resection, regardless of the level of the lesion, must be considered. Temporizing measures may be justifiable in elderly and poor risk patients.

A polyp whose largest diameter varies from 1 to 4 cm. should be removed in toto by snare excision and subject to careful histological examination. Again, the finding of invasive malignancy should be followed by an appropriate radical resection (Fig. 2).

If the greatest diameter of a polyp exceeds 4 cm. and if it is situated more than 10 cm. above the anal verge, it is usually difficult or impossible to remove it safely from below. Further, the danger of invasive malignancy increases greatly, probably logarithmically, with the size of the polyp (8). Because of these considerations, such polyps are probably best treated by primary anterior resection.

Polyps exceeding 4 cm. in diameter and situated in the 10 cm. of rectum immediately adjacent to the anal verge can frequently be excised in toto from below for biopsy purposes. A variety of techniques are feasible. Employment of these techniques becomes the more desirable in view of the fact that the alternatives are fulguration in situ or primary combined abdomino-perineal resection. If the polyp has a pedicle sufficiently long or is situated on mucosa sufficiently redundant, it can frequently be delivered through the gently divulsed anus and removed in toto as an excision biopsy. This method offers the advantage of adequate exposure. If delivery through the anus is not feasible, adequate exposure can usually be obtained by the use of a proctoscope of exceptionally large diameter (1½ inches). Divulsion of the anal sphincter may be necessary to permit introduction of this instrument. The lesion can then be removed by snare. Finally, posterior proctotomy without transecting the anal sphincter, will frequently make local excision possible.

When any polyp is removed by snare excision, adequate exposure can be obtained only by the use of a sigmoidoscope of extra-large diameter (1⅛"-1¼"). Since the area of a circle increases as the square of its radius, a relatively small increase in the diameter of a sigmoidoscope yields

large dividends in the field exposed. When instruments of this caliber are used, general anesthesia is necessary to prevent pain.

Finally, it should be emphasized that laparotomy can occasionally be circumvented by examining patients with extra-long sigmoidoscopes under general anesthesia. Polyps situated as far as 40 cm. from the anal verge can sometimes be visualized and treated if this extra effort is made.

The nature and frequency of follow-up examinations in patients who have had a polyp in the terminal segments of their large bowel depend somewhat on the pathological findings, but in general the following program is usually adequate:

- 1 Repeat proctoscopy in three to six months from the date of treatment.

2. Repeat proctoscopy and barium enema examination (with air contrast studies) one year from the date of treatment.

3. Thereafter, yearly proctoscopic examinations. Ideally, barium enema examinations, with air contrast studies, should be performed at the same time.

The Treatment of Polyps Beyond Reach of the Sigmoidoscope

There is fairly general, if not universal, agreement that simple colotomy and local excision are adequate treatment for single colonic polyps that do not show invasive malignancy in tissue sections.

Controversy begins as soon as consideration is extended to cases where more than one polyp is involved, and this is true whether the polyps have occurred simultaneously or in sequence.

A very common problem situation is that which arises whenever two or three small polyps (e.g. one cm. diameter) are found in the left colon at the time of barium enema examination. Should such polyps be removed by colotomy and local excision, or should an appropriate resection be performed? Those who favor resection feel that once multiple polyps have developed the mucosa in the involved area has demonstrated a definite proclivity to neoplastic transformation and should be removed, both in the interest of cancer prophylaxis and in the interest of averting future laparotomies. They also point to the frequency with

which other small polyps, undetected on barium enema examination, are found on the resected specimens in such cases. The increasing use of colonoscopy at the time of laparotomy may help to circumvent this problem (6, 7). Although resection has enjoyed considerable favor in the past few years, there is an increasing tendency lately to return to more conservative management (i.e., local excision) in the treatment of polyps of the large bowel (8). If previous laparotomy has been performed and there is reasonable certainty that the new polyp is not one previously overlooked, then resection seems indicated.

Polyps in pre-pubertal children constitute a separate and distinct problem. The danger of malignancy is practically nil and the incidence of serious complications attributable to the presence of polyps (intussusception and bleeding) is low. Contrariwise, the incidence of multiple laparotomies for the removal of polyps in children is distressingly high. For this reason it would seem best to delay laparotomy for a period of time after polyps are first discovered in the colon of a pre-pubertal child. Barium enema examinations (with air contrast studies) at six month intervals for one to two years may reveal that new polyps are forming, in which case surgery should probably be deferred until the situation is stabilized or until it becomes obvious that a fairly extensive surgical procedure will be necessary.

415 E. Yandell Dr.

Bibliography

1. Helwig, E. B. The evolution of adenomas of the large intestine and their relation to carcinoma. *Surgery, Gynecology, and Obstetrics* 84: 36-49, Jan. 1947.
2. Jackman, R. J., and Mayo, C. W. The adenoma-carcinoma sequence in cancer of the colon. *Surgery, Gynecology and Obstetrics* 93: 327-330, September, 1951.
3. Starr, G. F. Adenomatous polyps and polypoid carcinomas of the large intestine. *The American Journal of Clinical Pathology* 29: 208-218, March, 1958.
4. Wilson, G. S., Dale, E. H. and Brines, O. A. An evaluation of polyps detected in 20,847 routine sigmoidoscopic examinations. *American Journal of Surgery* 90: 834-840, November, 1955.
5. Weingarten, M., and Turrell, R. Carcinomatous mucosal excrescence of the rectum. *Journal of the American Medical Association* 149: 1467-1468, August 16, 1952.
6. Deddish, M. R., and Hertz, R. E. Colotomy and colonoscopy in the management of mucosal polyps and cancer of the colon. *American Journal of Surgery* 90: 846-849, November, 1955.
7. McLanahern, S., and Martin, R. E. Colotomy, colonoscopy, and colectomy in the management of polyps of the large intestine. *Annals of Surgery*: 689-698, May, 1957.
8. Grinnell, R. S., and Lane, N. Benign and malignant adenomatous polyps and papillary adenomas of the colon and rectum. An analysis of 1856 tumors in 1335 patients. *International Abstracts of Surgery* 106: 519-538, June, 1958.

Outpatient Evaluation of a New Antipruritic-Antiallergic Agent

KENNETH LOGAN, M.D., *Pittsburgh*

Research is constantly seeking a more effective antihistamine to relieve allergies without the usual aggravating side effects.

In the treatment of allergies which afflict an ever-increasing number of our population, drowsiness related to antihistamines has always posed a problem. This is especially important when one considers the vast number of people, both male and female, who comprise the "working class," where alertness during the working day is paramount.

Thus with the release of a potent, new antihistamine, generically designated dimethpyrindene maleate*, we felt that an evaluation of this new agent was imperative.

Material and Methods

Our group was composed of 100 nonhospitalized patients, 47 males and 53 females, ranging in age from two to 77 years. We used all formulations of dimethpyrindene; tablets, lontabs, syrup, and pediatric drops, depending on diagnoses and age of the patients.

With adults our initial dosage was the 1.0 mg. tablet, one, two, or three times a day. Where slight drowsiness proved to be a disturbing factor, we switched to lontabs (2.5 mg. b.i.d.) usually

with resultant disappearance of the soporific effect. Preliminary studies¹ have shown the average dosage of the lontab to be 2.5 mg. b.i.d.

The lontab has the advantage of providing continuous medication over a long period of time. It has two separate parts. The coating, containing 0.75 mg. of the drug, is released during the first 20 minutes; the core contains 1.75 mg. dimethpyrindene which is slowly and regularly released over a period of 8 to 10 hours.

Since its availability to the profession, many investigators have reported clinical trials with dimethpyrindene in its various dosage forms. Double-blind studies have demonstrated that placebos are definitely less effective than dimethpyrindene.² We did not feel that another double-blind study would be justified in our group.

As will be seen from Table I below, the majority of our patients had allergic rhinitis in one form or another, our diagnoses being established by allergic history, and symptomology. In some, the etiologic agent was identified by scratch tests.

Results

Schiller³ noted that relief of symptoms was usually observed by the patients within 30 to 60 minutes after ingestion of the drug. We found this to be true in our group also. In the majority of our patients the optimum dosage was one tablet tid.

*Dimethpyrindene maleate supplied as Forhistal by the Medical Division, CIBA Pharmaceutical Products, Inc., Summit, New Jersey.

No. of Patients	Diagnosis	Results			
		Marked	Moderate	Slight	None
41	Allergic Rhinitis (coryza,) hay fever, etc.)	29	6	5	1
19	Drug and Food Allergy	15	1	2	1
12	Acute Sinus Infection	3	4	3	2
12	Generalized Pruritus (including herpes zoster, chickenpox, urticaria, measles, poison ivy)	8	4	-	-
6	Motion sickness (including one case of Meniere's syndrome)	3	3	-	-
2	Bronchitis	2	-	-	-
2	Allergic Dermatitis	1	-	1	-
2	Chronic Cough (flu)	-	-	2	-
1	Asthma	1	-	-	-
1	Chronic Rhinitis	1	-	-	-
1	Contact Dermatitis	1	-	-	-
1	Allergic Sinusitis	-	1	-	-
<u>100</u>		<u>63</u>	<u>19</u>	<u>13</u>	<u>4</u>

Table 1

As will be noted in this table, 63 of our patients obtained "marked" relief; 19 obtained "moderate" relief; 13 obtained "slight" relief; and only four reported no relief. Thus 82 per cent of our 100 patients experienced satisfactory relief of symptoms with dimethpyrindene.

All the cases of pruritus studied obtained "moderate" to "marked" relief.

The majority of our group of 100 patients had previously used many forms of ointments, powders, nose drops, steroids, etc. However, only 14 had used antihistamines before our study was begun. Thirteen reported that dimethpyrindene was considerably more effective than any drug previously used. Only one patient felt that other antihistamines were better.

Side Effects

Although slight drowsiness was reported by 21 patients, the dramatic relief obtained was considered by them to be worth this evanescent inconvenience. It presented very little concern to any of the patients, and in no case was it necessary to discontinue the drug.

There were only four cases of marked drowsiness, one of which immediately subsided when dosage was reduced and changed from tablets to lontabs. It was not necessary to discontinue the drug in any case because of this side effect.

There were two cases of slight nausea, and one patient complained of loss of appetite.

We were gratified to note that none of the more serious effects encountered with other antihistamines, such as vertigo, vomiting, blurring of vision, etc., was reported in any of our cases.

In patients receiving dimethpyrindene, Carpenter, et al.⁴ made serial determinations of cephalin flocculation, thymol turbidity, albumin/globulin ratio, alkaline phosphatase, and blood counts. No abnormalities were noted. Thus we did not feel it necessary to repeat these studies.

Summary

1. A new antiallergic-antipruritic compound, dimethpyrindene maleate (Forhistal) was evaluated in 100 outpatients with common respiratory, gastrointestinal, and dermatological allergies. Included also were 12 patients with generalized pruritus (herpes zoster, chickenpox, measles, poison ivy, urticaria). Satisfactory relief of symptoms occurred in 82 per cent of all cases treated.

2. In the 12 cases of generalized pruritus, it is interesting to observe that all obtained "moderate" to "marked" relief.

3. In allergic conditions where higher dosages were required, some slight drowsiness has been observed, but in no instance was it found necessary to discontinue the drug. In only four instances dimethpyrindene caused "marked" drowsiness; in

one patient this side effect disappeared when dosage was lowered. Here also it was not deemed necessary to discontinue the drug. In our judgment, dimethpyrindene is most worthy of inclusion in today's index of antihistaminic drugs.

130 Cornell Ave., West View

References

1. Thomas, J. W., Kelley, F. R., Jr.: Clinical Study of a New Antihistamine, Dimethpyrindene (Forhistal), *Annals of Allergy*, Vol. 18, 876-880, August, 1960.
2. Grater, W. C.: Clinical Observations with Dimethpyrindene Maleate in Allergic Rhinitis, *International Record of Medicine* 174:1, January, 1961.
3. Schiller, I. W.: Preliminary Experience with Dimethpyrindene (Forhistal), A New Antihistamine, in the Treatment of Seasonal Allergic Rhinitis, *Bulletin of Tufts-N. E. Med. Center* VI: 83-86, April-June, 1960.
4. Carpenter, C. L., Neder, G. W., Derbes, V. J.: A New Antihistamine, Dimethpyrindene, *Southern Medical Journal*, 53:8, 1017-1018, August, 1960.

Arizona GP's To Meet

Oct. 12-14 in Tucson

BOOKS

The annual scientific session of the Arizona Academy of General Practice will be held at the Ramada Inn, Tucson, Arizona from October 12th through the 14th, 1961.

Principal speakers on the program are:

Richard W. Telinde, M.D.
Professor Emeritus of Gynecology
Johns Hopkins
Topic: Cancer of the Cervix

Waldo E. Nelson, M.D.
Professor of Pediatrics
Temple University
Topic: Infections in the Newborn

Michael DeBakey, M.D.
Professor of Surgery
Baylor University Medical School
Topic: Vascular Surgery

Foster Matchett, M.D.
Assistant Professor
Department of Orthopedics
University of Colorado
Topic: Not announced.

Category Credit 1 will be given for this three day course. Address inquiries to:

Noel Smith, M.D.
3614 N. 15th Ave.
Phoenix, Arizona

PHYSIOLOGY OF THE EYE: *Clinical Application*, 3rd Edition. By FRANCIS HEED ADLER, 790 pages, 372 illustrations, printed by C. V. Mosby Company, St. Louis, price \$16.00.

This third edition of *Physiology of the Eye*, by Francis Heed Adler, contains probably twenty percent more "meat" than the second edition; this is attained by an increase of sixty pages and the use of smaller though quite readable type. The chapters on ocular muscles, binocular vision, aqueous humor, and intraocular pressure have been rewritten. The existence of a through and through circulation of the aqueous is emphasized. The reviewer rather would have liked to see more space devoted to the physiology, or perhaps pathology, in the relationship between corneal metabolism and contact lenses, in view of the current increase in use of the latter.

Dr. Adler skillfully bridges the gap between the research in basic sciences and their clinical applications. This is a book of value to the practicing ophthalmologist. It verges on impudence to criticize in any way the work of so intelligent and dedicated a worker as is Dr. Adler. However the index in this third edition is much less comprehensive than in the second (the second edition, for instance, shows sixty-nine references to the cornea and the new edition only forty-four; for the lens the older edition shows fifty-nine references; whereas the newer one has only twenty-six.) It will be a shame if the tremendous knowledge and lucid style Dr. Adler contributes in this book are crippled by an incomplete index.

JOHN D. MARTIN, M.D.
El Paso



Southwestern Physicians' Directory



SAUL B. APPEL, M.D.

Certified by the American Board of Internal Medicine

CARDIOVASCULAR DISEASES

Suite 10E
KE 3-5201 EL PASO MEDICAL CENTER 1501 Arizona Ave.
El Paso, Texas

ARTESIA MEDICAL CENTER

Phone:

Henry L. Wall, M.D., Suite A SH 6-2311
General Practice
Robert W. Harper, M.D., Suite B SH 6-2531
Surgery and Gynecology
Owen C. Taylor, Jr., M.D., Suite C SH 6-2521
General Practice
C. Pardue Bunch, M.D., Suite D SH 6-3321
General Practice
Gerald A. Slusser, M. D., Suite E SH 6-2441
Surgery
X-ray and Medical Laboratory SH 6-4200
Fourth and Washington Artesia, New Mexico

ANDREW M. BABEY, M. D.

Certified by the American Board of Internal Medicine

CARDIOVASCULAR DISEASES

250 West Court Avenue JACKSON 4-4481 Las Cruces, N. M.

FRANK O. BARRETT
ANESTHESIOLOGY ASSOCIATES

J. A. Shugart, M.D.

(Diplomate American Board of Anesthesiology)

Jack Walker, M.D., J. W. Redelfs, M.D., Jack Ellis, M.D.

B. F. Fehlman, M. D., C. G. Race, M.D.

— ANESTHESIOLOGY —

1501 Arizona Ave.
El Paso Medical Center KE 3-8431 El Paso, Texas

OTTO L. BENDHEIM, M. D.

DIPLOMATE AMERICAN BOARD OF PSYCHIATRY &
NEUROLOGY

5051 N. 34th Street CRestwood 7-7431 Phoenix, Arizona

RAYMOND J. BENNETT, M. D.

Diplomate of the American Board of Neurology and Psychiatry

PRACTICE LIMITED TO NEUROPSYCHIATRY

Suite 7A El Paso Medical Center 1501 Arizona Avenue
Phone KE 2-1177 El Paso, Texas

JACK A. BERNARD, M.D., F.A.C.P.

Diplomate American Board Internal Medicine

INTERNAL MEDICINE
CARDIOVASCULAR DISEASES

Suite 3C El Paso Medical Center 1501 Arizona Avenue
Phone KE 3-8151 El Paso, Texas

VICTOR M. BLANCO, M.D.

Diplomate of the American Board of Surgery

GENERAL AND CANCER SURGERY

205 University Towers Building
1900 N. Oregon St. KE 3-5519 El Paso, Texas

CLEMENT C. BOEHLER, M. D., F.A.C.S.
H. W. DEMAREST, M.D., F.A.C.S.

Diplomates American Board Obstetrics and Gynecology

Suite B-A Medical Center 1501 Arizona Avenue
Phone KE 2-6591 El Paso, Texas

FREDERICK P. BORNSTEIN, M.D.

Certified by the American Board of Pathology
in Pathologic Anatomy and Forensic Pathology

102 University Towers Bldg.
1900 N. Oregon St. KE 2-3901 El Paso, Texas

LOUIS W. BRECK, M.D.

W. COMPERE BASOM, M.D.

MORTON H. LEONARD, M.D.

MARIO PALAFOX, M.D.

ZIGMUND W. KOSICKI, M.D.

ADRIAN L. GRASS, M.D.

The El Paso Orthopaedic Surgery Group

1220 N. Stanton St. Telephone KE 3-7465 El Paso, Texas

BASIL K. BYRNE, M.D., F.A.A.P.

IRVIN J. GOLDFARB, M.D., F.A.A.P.

Diplomates American Board of Pediatrics
PEDIATRICS

Suite 4A El Paso Medical Center 1501 Arizona Avenue
KE 3-8487 El Paso, Texas

ROBERT J. CARDWELL, M.D.

(Diplomate American Board of Obstetrics and Gynecology)

608 University Towers Building

1900 N. Oregon St. KE 3-7587 El Paso, Texas

ROBERT N. CAYLOR, M.D.

Practice Limited to Ophthalmology

508 University Towers Building
1900 N. Oregon St. KE 3-4909 El Paso, Texas

Diagnosis:
Cellulitis

What now?



Chymar[®] for one thing

A SUPERIOR SYSTEMIC ANTI-INFLAMMATORY ENZYME

To control inflammation, swelling and pain in INFLAMMATORY DISORDERS OF THE EYE AND NOSE and ocular trauma Chymar has become a widely accepted therapy for control of the edema and cyanosis associated with conditions such as cellulitis. Moreover, Chymar is widely used to shorten recovery time from accidental, surgical or instrumentation trauma with edema, hematoma and inflammation in and around tissues of the eye, nose and throat.¹⁻⁴ In acute infectious conjunctivitis and iritis, Chymar has produced prompt and marked reduction of inflammation and pain in two-thirds of cases.⁵ By reducing inflammation and edema of engorged respiratory tract mucosa and improving regional blood flow, Chymar promotes a thinner exudate and thereby assists liquefaction of secretions. Results in rhinitis and sinusitis have been highly satisfactory.⁶

1. Hughes, W. L.; Lewis, E. L., and Amdur, J.: Submitted for publication. 2. Jenkins, B. H.: J.M.A. Georgia 45:431, 1956. 3. Personal Communications to the Medical Department, Armour Pharmaceutical Company, 1959. 4. Fortier, E. G.: The Use of Intramuscular Chymotrypsin in Controlling Tissue Reaction Following Strabismus Surgery, to be published in Am. J. Ophth. 5. Davis, O. F.; Levine, A. J.; Beck, C., and Horwitz, B.: Postgrad. Med. 26:719, 1959. 6. Parsons, E. J.: Clin. Med. 5:1491, 1958.

*the systemic
route to
faster
healing at
any location*



ARMOUR PHARMACEUTICAL COMPANY
KANKAKEE, ILLINOIS • *Armour Means Protection*

42: NO. 7 (JULY) 1961

CHYMAR

Chymar Aqueous and Chymar (in oil) contain crystallized chymotrypsin, a proteolytic enzyme with systemic anti-inflammatory properties. Each cc. of Chymar contains 5000 Armour Units of chymotrypsin, 0.18% methyl paraben, 0.02% propyl paraben, 2% aluminum monostearate, q.s. sesame oil. Each cc. of Chymar Aqueous contains 5000 Armour Units of chymotrypsin, 0.9% sodium chloride, 0.2% calcium acetate, 0.01% thimerosal, q.s. Water for Injection. ACTION: Reduces inflammation of all types; reduces and prevents edema except that of cardiac or renal origin; hastens absorption of blood and lymph extravasates; helps to liquefy thick tenacious mucous secretions; restores local circulation; promotes healing; reduces pain. INDICATIONS: Chymar is indicated in respiratory conditions such as asthma, bronchitis, sinusitis and rhinitis; in accidental trauma to speed reduction of hematomas, bruises and contusions; in inflammatory dermatoses to ameliorate acute inflammation in conjunction with standard therapies; in gynecologic conditions therapeutically or in conjunction with antibiotics in pelvic inflammatory disease; in surgical procedures as biopsies, G.I. surgery, hernia repairs, hemorrhoidectomies, plastic surgery and thrombophlebitis; in peptic ulcers and ulcerative colitis as an adjunct to diet, antispasmodics, antacids, etc.; in genitourinary disorders as epididymitis, orchitis and prostatitis; in eye conditions as acute conjunctivitis, traumatic edema, hematomas, and eye surgery, in dental and oral surgery as fractures of the mandible or maxilla, alveolectomies, denture fitting, and multiple extractions; and in obstetrics as in episiotomies, breast engorgement, and thrombophlebitis. PRECAUTIONS: Chymar and Chymar Aqueous are for intramuscular injection only. Although sensitivity to chymotrypsin is uncommon, reactions to anti-inflammatory enzymes have been observed. The usual remedial agents (epinephrine, corticotropin (HP[®] ACTHAR Gel), antihistamine, aminophylline, etc.) should be readily available in case of untoward reactions. Precautions (scratch testing for Chymar (in oil), scratch or intradermal testing for Chymar Aqueous) should be exercised in those patients with known or suspected allergies or sensitivities. As with any foreign protein, patients may develop sensitivity from repeated injections. It is, therefore, recommended that the above precautions be considered prior to administration. In further treatment of those patients in whom a previous injection of chymotrypsin produced signs of possible sensitivity, such as localized edema and erythema at injection site, urticaria, conjunctivitis, etc., particular care must be exercised. INCOMPATIBILITIES: With usual agents, none known—e.g., compatible with antibiotics and anesthetics. DOSAGE: 0.5 cc. to 1.0 cc. deep intramuscularly once or twice daily, depending on severity of condition. Decrease frequency as course of condition is altered. In chronic or recurrent conditions, 0.5 cc. to 1.0 cc. once or twice weekly. SUPPLIED: Chymar in Oil 5 cc. vials and Chymar Aqueous 1 and 5 cc. vials; 5000 Armour Units of proteolytic activity per cc. ^{*}Highly Purified.



© Jan. 1961, A.P. Co.



Southwestern Physicians' Directory



WILLIAM I. COLDWELL, M.D.

Certified by the American Board of Internal Medicine

INTERNAL MEDICINE

501 University Towers Building

1900 N. Oregon St. KE 2-2661 El Paso, Texas

BRANCH CRAIGE, M.D., F.A.C.P.

(Certified by American Board of Internal Medicine)

INTERNAL MEDICINE

Suite 5B El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-7121 El Paso, Texas

E. S. CROSSETT, M.D.

Diplomate American Board of Thoracic Surgery

GEORGE W. IWEN, M.D.
THORACIC SURGERY

Cardiovascular Surgery Broncho-Esophagology
Suite 11-D KE 3-8511 or KE 2-2474 1501 Arizona Ave.
El Paso Medical Center El Paso, Texas

WICKLIFFE R. CURTIS, M. D., F.A.C.S.

JAMES D. BOZZELL, M.D., F.A.C.S.

Diplomates American Board of Urology

PRACTICE LIMITED TO UROLOGY

Suite 3B El Paso Medical Center 1501 Arizona Avenue
Phone KE 3-1426 El Paso, Texas

RITA L. DON, M.D.

Allergy

102 University Towers Building

1900 N. Oregon St. KE 2-3901 El Paso, Texas

ANTONIO DOW, M.D., F.A.C.S.

(Diplomate of American Board of Surgery)

GENERAL SURGERY

205 University Towers Building

1900 N. Oregon St. KE 2-7305 El Paso, Texas

HAROLD D. DOW, M.D.
FREDERICK J. KOBERG, M.D.

General Practice — Surgery

Box 456
702 Hobbs Road Phone 3641 Seminole, Texas

JOHN A. EISENBEISS, M.D., F.A.C.S.
WILLIAM B. HELME, M.D.

Diplomates of the American Board of Neurological Surgery

NEUROSURGERY

926 E. McDowell Road AL 4-3151 Phoenix, Arizona

WARD EVANS, M.D., F.A.C.S.

(Diplomate American Board of Surgery)

SURGERY

608 University Towers Building

1900 N. Oregon St. KE 3-7587 El Paso, Texas

LESTER C. FEENER, M.D., F.A.C.P.

Diplomate American Board of Internal Medicine

INTERNAL MEDICINE

CARDIOVASCULAR DISEASES

404 Banner Bldg. KE 2-5771 El Paso, Texas

2021 N. Central Ave. AL 3-4131

DOUGLAS D. GAIN, M.D.

JOHN W. KENNEDY, M.D.

JAMES R. MATHESON, M.D.

FRANK TOLONE, M.D.

Diplomates of American Board of Radiology
X-RAY THERAPY and DIAGNOSIS
RADIUM THERAPY

Phoenix

Arizona

ALBERT A. GEMOETS, M.D.

Member American Academy of General Practice

GENERAL PRACTICE

3726 1/2 Alameda Ave. KE 3-7689 El Paso, Texas

H. M. GIBSON, M.D., F.A.C.S.

Certified by American Board of Urology

PRACTICE LIMITED TO UROLOGY

512 University Towers Building

1900 N. Oregon St. KE 2-8130 El Paso, Texas

L. A. GLADSTONE, M.D.

W. D. FEINBERG, M.D.

INTERNAL MEDICINE

Bldg. 14, Suite D 1501 Arizona Ave.
El Paso Medical Center KE 3-2508 El Paso, Texas

JAMES J. GORMAN, M.D., F.A.C.P.

Diplomate American Board of Internal Medicine

DIAGNOSIS — GASTROENTEROLOGY

701 First National Building KE 2-6221 El Paso, Texas

J. LEIGHTON GREEN, M.D., F.A.C.S.

GENERAL and GYNECOLOGICAL SURGERY

Suite 3A El Paso Medical Center 1501 Arizona Avenue
Phone KE 2-9790 El Paso, Texas



Southwestern Physicians' Directory



DRS. HART, BOVERIE, BLACK,
CLAYTON, GREEN & WHITE

PATHOLOGICAL AND CLINICAL LABORATORIES
X-RAY DIAGNOSIS AND THERAPY

Radioactive
Isotopes

Cobalt
Beam Therapy

Pathology

M. S. HART, M.D.

C. L. GREEN, M.D.

Diplomates American Board of Pathology

R. F. BOVERIE, M.D.

G. L. BLACK, M.D.

R. S. CLAYTON, M.D.

J. E. WHITE, M.D.

Diplomates American Board of Radiology

MELVIN A. LYONS, M.S.H.A.

Business Manager

El Paso Medical Center
1501 Arizona Ave., Suite 2A
KE 3-4478

Medical Arts Building
415 E. Yandell Drive, Suite 105
KE 3-6926

EL PASO, TEXAS

SOL HEINEMANN, M.D., F.A.C.S.

Diplomate, American Board of Urology

UROLOGY

212 University Towers Bldg.

1900 N. Oregon St.

LI 2-1539

El Paso, Texas

SOLOMON HELLER, M.D.

INTERNAL MEDICINE

Hematology—Endocrinology

505 University Towers Building

1900 N. Oregon St.

KE 3-0406

El Paso, Texas

HERBERT E. HIPPS, M.D.

ORTHOPEDIC SURGERY

1612 Columbus Ave.

4-4701

Waco, Texas

RUSSELL HOLT, M.D.

B. LYNN GOODLOE, M.D.

GENERAL and GYNECOLOGICAL SURGERY

MEDICAL ARTS BUILDING

415 East Yandell Blvd.

KE 3-3443

El Paso, Texas

RALPH H. HOMAN, M.D., F.A.C.P.

CARDIOLOGY

ROBERT B. HOMAN, JR., M.D., F.A.C.S.

DISEASES OF THE CHEST — THORACIC SURGERY

Suite 7D El Paso Medical Center
Phone KE 3-1409

1501 Arizona Avenue
El Paso, Texas

GEORGE W. HORTON, M.D.

PRACTICE LIMITED TO ORTHOPEDICS

513 West 4th Street

FEderal 2-1271

Odessa, Texas

LOUIS G. JEKEL, M.D.

ROBERT H. SNAPP, M.D.

Diplomates American Board of Dermatology

DERMATOLOGY

550 W. Thomas Rd.

CR 4-4901

Phoenix, Ariz

W. A. JONES, M.D.

Diplomate American Board of Neurological Surgery

K. ZOLFOGHARY, M.D.,

NEUROLOGICAL SURGERY

Suite 1C

El Paso Medical Center

1501 Arizona Avenue

KE 2-7579, KE 3-9076

El Paso, Texas

G. H. Jordan, M.D., F.A.C.S.

C. E. Webb, M.D., F.A.C.S.

DRS. JORDAN AND WEBB

Diplomates American Board of Surgery

GENERAL and GYNECOLOGICAL SURGERY

Suite 7B

El Paso Medical Center

1501 Arizona Ave.

Phone KE 2-1693

El Paso, Texas

LINDELL M. KINMAN, M.D.

Diplomate American Board of Urology

UROLOGY

300 West Alameda

Phone MA 2-4111

Roswell, N. Mex.

M. NATHAN KLEBAN, M.D.

Certified by American Board of Internal Medicine

Internal Medicine

610 University Towers Building

1900 N. Oregon St.

KE 2-7079

El Paso, Texas

3500 Physicians Read

Southwestern Medicine

GILBERT LANDIS, M.D., F.A.C.S.

Diplomate American Board of Obstetrics & Gynecology

OBSTETRICS, GYNECOLOGY
and GYNECOLOGICAL SURGERY

Suite 15-D

KE 3-5023

1501 Arizona Ave.

El Paso Medical Center

El Paso, Texas



Southwestern Physicians' Directory



ROYCE C. LEWIS, JR., M.D.

Diplomate American Board of Orthopedic Surgery

ORTHOPEDIC SURGERY and SURGERY OF THE HAND

1910 Knoxville St. PO 3-8281 Lubbock, Texas

A. L. LINDBERG, M.D.
JOHN W. VOSSKUHLE, M.D.

Neoplastic Diseases

TUCSON TUMOR CLINIC

721 N. 4th Ave. MA 3-2531 Tucson, Arizona

CHARLES P. C. LOGSDON, M.D.

CARDIOLOGY

415 E. Yandell Blvd. KE 3-7916 El Paso, Texas

TRUETT L. MADDOX, D.D.S.

ORAL SURGERY

Suite 9A El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-3659 El Paso, Texas

WALTER B. MANTOOTH, JR., M.D.

JOE H. LEHMAN, M.D.
Dermatology and Cancer of the Skin

Suite 101 Lubbock
3801 19th Street SWift 9-4359 Texas

GEORGE B. MARKLE, IV, M.D.

Diplomate of the American Board of Surgery

GENERAL and GYNCOLOGICAL SURGERY

911 North Canal TU 5-5240 Carlsbad, New Mexico

MARSHALL CLINIC

I. J. Marshall, M.D.
General Surgery and Diagnosis
U. S. Marshall, M.D.
General Surgery and General Practice
E. A. Latimer, M.D.
General Practice
C. H. Fowler, M.D.
Internal Medicine and Cardiology
Thomas J. Jones, M.D.
Diseases of the Skin and Allergies
H. D. Johnson, Jr., D.D.S.

ROSWELL

NEW MEXICO

HOWARD J. H. MARSHALL, M.D.

Member American Academy of General Practice

GENERAL PRACTICE

Suite 8E 1501 Arizona Avenue
El Paso Medical Center KE 2-2431 El Paso, Texas

MEDICAL CENTER HOSPITAL AND CLINIC

Eugene McCarthy, M.D., FACS, FICS

Diplomate American Board of Obstetrics & Gynecology

Jeff H. Davis, M.D., AAGP; Joe J. Horn, M.D., AAGP

Howard Hancock, M.D., DABR

A. B. Cairns, M.D., FACCP; W. Ralph Thomas, M.D.
220 St. Louis St. CA 4-7426 Plainview, Texas

JAMES R. MORGAN, M.D.

Certified by American Board of Obstetrics & Gynecology

OBSTETRICS and GYNCOLOGY

Suite 3A El Paso Medical Center 1501 Arizona Ave.
KE 3-2265 El Paso, Texas

A. WILLIAM MULTHAUF, M.D., F.A.C.S.

UROLOGICAL DIAGNOSIS AND SURGERY

1315 First National Bldg. KE 3-8986 El Paso, Texas

E. K. NEIDICH, M.D., D.A.B.R.

RADIOLOGY

Memorial General Hospital JACKson 6-2411 Las Cruces, N. M.

WALLACE E. NISSEN, M.D., F.A.C.S.

W. W. KRIDELBAUGH, M.D., F.A.C.S.

GENERAL SURGERY

Medical Arts Square
801 Encino Place, Suite 35 3-2251 Albuquerque, N. M.

F. KEITH OEHLISCHLAGER, M.D.

WILLIAM M. BRANTLEY, M.D.

OBSTETRICS & GYNCOLOGY

1167 E. 42nd St. Sherwood Medical Center Phone
Suites 5 & 6 Odessa, Texas EM 6-4447

THE ORTHOPEDIC CLINIC

Orthopedic Surgery

W. A. BISHOP, JR., M.D., F.A.C.S.

ALVIN L. SWENSON, M.D., F.A.C.S.

RAY FIFE, M.D.

SIDNEY L. STOVALL, M.D., F.A.C.S.

THOMAS H. TABER, JR., M.D., F.A.C.S.

Diplomates of the American Board of Orthopedic Surgery
2620 North Third Street—Phone CRestwood 7-6211—Phoenix, Ariz.

Butazolidin

brand of phenylbutazone

Geigy

arthritis and allied disorders



Proved by a decade of experience

Ten years of world-wide experience... almost 2000 published reports... have progressively entrenched Butazolidin as the leading nonhormonal antiarthritic agent.

In virtually all forms of arthritic disorder, Butazolidin affords prompt symptomatic and objective improvement without development of tolerance... without danger of hypercortisonism.

Butazolidin[®], brand of phenylbutazone, tablets of 100 mg.; Butazolidin[®] alka capsules containing Butazolidin, 100 mg.; dried aluminum hydroxide gel, 100 mg.; magnesium trisilicate, 150 mg.; homatropine methylbromide, 1.25 mg.



Southwestern Physicians' Directory



JAMES M. OVENS, M.D.
F.A.C.S., F.I.C.S.

Diplomate American Board of Surgery
CANCER AND TUMOR SURGERY
X-RAY AND RADIUM THERAPY

333 W. Thomas Road AL 8-8074 Phoenix, Ariz.

ROBERT E. PARKINS, D.D.S.

GENERAL DENTISTRY

Bldg. I, Suite E 1501 Arizona Ave.
Phone KE 3-1245 El Paso Medical Center El Paso, Texas

*3500 Physicians Read
Southwestern Medicine*

JACK C. POSTLEWAITE, M.D.

Diplomate American Board of Internal Medicine

INTERNAL MEDICINE

Suite 5D 1501 Arizona Ave.
El Paso Medical Center KE 2-1385 El Paso, Texas

DONALD RATHBUN, M.D.

NEUROLOGY

and

Internal Medicine

Suite 4B KE 2-8778 1501 Arizona Ave.
El Paso Medical Center El Paso, Texas

*3500 Physicians Read
Southwestern Medicine*

VINCENT M. RAVEL, M.D.

Diplomate American Board of Radiology

Radiology — Radio-Isotopes

Cobalt⁶⁰ — Teletherapy

101 University Towers Bldg.
El Paso KE 2-3459 Texas

HERMAN RICE, M.D.

Practice Limited to General Surgery

El Paso Medical Center

Bldg. 4-B 1501 Arizona Ave.
Phone KE 3-8051 El Paso, Texas

RISSLER-WOLLMANN CLINIC

ROSS W. RISSLER, M.D., F.A.C.C.
(Certified by the American Board of Internal Medicine)
INTERNAL MEDICINE — CARDIOLOGY

WALTER W. WOLLMANN, M.D., F.A.C.S.
(Certified by the American Board of Surgery)
GENERAL SURGERY

2001 Grant Ave. KE 3-1601 El Paso, Texas

CECIL A. ROBINSON, M.D., F.A.C.S.

Diplomate American Board of Orthopaedic Surgery

Orthopaedic Surgery

111 No. Pine Street JU 6-2541 Kermit, Texas

S. PERRY ROGERS, M.D.

W. HUNTER VAUGHAN, M.D.

(Diplomates American Board of Orthopedic Surgery)
ORTHOPEDIC SURGERY

Suite 2B El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-4433 El Paso, Texas

WILLARD W. SCHUESSLER, M.D.

DONALD H. EWALT, M.D.

Diplomates of the American Board of Plastic Surgery
Plastic, Reconstructive Surgery and
Maxillo-facial Surgery

1501 Arizona Ave. Medical Center, Suite 4-C
El Paso, Texas

F. P. SCHUSTER, M.D.

S. A. SCHUSTER, M.D.

NEWTON F. WALKER, M.D.

BRADFORD HARDIE, M.D.

EYE, EAR, NOSE AND THROAT-BRONCHOSCOPY

First National Bldg. KE 2-1495 El Paso, Texas

O. J. SHAFFER, D.D.S., F.A.C.D.

(Diplomate American Board of Oral Surgery)

ORAL SURGERY

Suite 1D El Paso Medical Center 1501 Arizona Ave.
Phone KE 3-6742 El Paso, Texas

D. J. SIBLEY, JR., M.D.

GENERAL PRACTICE

Box 367 Phone 584 Ft. Stockton, Texas



Southwestern Physicians' Directory



EUGENE P. SIMMS, M.D.

— GENERAL PRACTICE —

Medical Arts Center

1213 Tenth Street HEmlock 7-1720 Alamogordo, N. M.

Leslie M. Smith, M.D. John C. Wilkinson, M.D.
H. D. Garrett, M.D.

DRS. SMITH, GARRETT & WILKINSON

Diplomates American Board of Dermatology

DISEASES OF THE SKIN

Suite 3D El Paso Medical Center 1501 Arizona Ave.
Phone KE 3-6172 El Paso, Texas

C. M. STANFILL, M.D.

Diplomate American Board of Otolaryngology

EAR, NOSE AND THROAT

Stapes Mobilization

507 University Towers Building

1900 N. Oregon St. KE 2-9449 El Paso, Texas

ROBERT HEALY STEVENS, B.S., M.D.

F.C.C.P.

ALLERGY — INTERNAL MEDICINE

1313 N. Second St. AL 4-8841 Phoenix, Arizona

C. S. STONE, M.D., F.A.C.S.

EXpress 3-5323

301 East Cain Street Hobbs, N.M.

JESSON L. STOWE, M.D.

GRAY E. CARPENTER, M.D.

GYNECOLOGY AND OBSTETRICS

2323 Montana Avenue KE 2-4631 El Paso, Texas

WINSLOW P. STRATEMEYER, M.D.

Diplomate American Board of Neurological Surgery

NEUROLOGICAL SURGERY

Suite 11A Office KE 2-9167 1501 Arizona Ave.
El Paso Medical Center Home JU 4-0553 El Paso, Texas

M. D. THOMAS, M.D.

Diplomate American Board of Anesthesiology

Suite 12-D KE 3-3745
1501 Arizona Ave. El Paso, Texas

El Paso Medical Center

ROBERT F. THOMPSON, M.D., F.A.C.S.

(Certified by American Board of Urology)

UROLOGY

301 University Towers Building
1900 N. Oregon St. KE 2-4321 El Paso, Texas

TURNER'S CLINICAL
& X-RAY LABORATORIES

GEORGE TURNER, M.D.

DELPHIN von BRIESEN, M.D.

HELEN W. ANDERSON, M.D.

MEDICAL CENTER

1501 Arizona Ave. Phone: KE 2-4689
Building No. 6 El Paso, Texas

*3500 Physicians Read
Southwestern Medicine*

HARRY H. VARNER, M.D.

LEIGH E. WILCOX, M.D.

RUSSELL L. DETER, M.D.

GENERAL SURGERY

Suite SE 1501 Arizona Ave.
El Paso Medical Center
Phone KE 2-6529 El Paso, Texas

WILLIAM H. WADE, M.D., F.A.C.S.

Diplomate American Board of Surgery

GENERAL SURGERY

CARDIOVASCULAR SURGERY

El Paso Medical Center, 15-B
1501 Arizona Ave. KE 2-8111 El Paso, Texas

RICHARD P. WAGGONER, M.D.

M.S. (SURG.), F.A.C.S.

GENERAL SURGERY

504 N. Richardson St. Phone 208 Roswell, N. M.

GRADY M. WALLACE, M.D., D.A.B.O.

Practice Limited to the Eye

3801 19th Street SW 9-4343 Lubbock, Texas



Southwestern General Hospital

Accredited by the Joint Commission on Accreditation of Hospitals

Member Hospital:

American Hospital Association
Texas Hospital Association
Blue Cross of Texas



COTTON AVENUE AND ERIE STREET • EL PASO, TEXAS

Hotel Dieu, Sister's Hospital

Fully Approved by the
Joint Commission on Accreditation
of Hospitals.

Latest Facilities For All Services.
Emergency Service Around
the Clock.

EL PASO, TEXAS

Hotel Dieu School of Nursing

Fully approved by the
National Nursing Accrediting
Service.

Applicants May Apply
To
Sister Aloysius, *Director*

EL PASO, TEXAS

Hotel Dieu School of Medical Technology

Fully Approved by the American
Medical Association, American
Society of Clinical Pathologists,
and Registry of Medical Tech-
nologists.

EL PASO, TEXAS

The Clinic-Hospital of San Angelo

D. D. WALL, M.D.
Obstetrics & Gynecology
R. M. FINKS, M.D.
Pediatrics
M. D. KNIGHT, M.D.
Surgery
W. H. BRAUNS, M.D.
Internal Medicine

ROY E. MOON, M.D.
Obstetrics & Gynecology
CHAS. F. ENGELKING, M.D.
Ear, Nose and Throat
DALE W. HAYTER, M.D.
Ophthalmology

R. A. MORSE, M.D.
Internal Medicine
RALPH R. CHASE, M.D.
Pediatrics
TOM R. HUNTER, M.D.
Surgery
H. W. DISERENS, M.D.
Pediatrics


Consultant in Pathology: LLOYD R. HERSHBERGER, M.D.

Consultants in Radiology: JOHN E. BALLARD, M. D.; JOHN G. BOLEN, M.D.

224-234 W. BEAUREGARD AVE.

J. B. ADCOCK, Administrator

SAN ANGELO, TEXAS



bacterial
cheobronchitis

analba*
romptly
gain precious
therapeutic hours

ba your broad-spectrum
antibiotic of first resort

In the presence of bacterial infection, taking a culture to determine bacterial identity and sensitivity is desirable—but not always practical in terms of the time and facilities available.

A rational clinical alternative is to launch therapy at once with Panalba, the antibiotic that provides the best odds for success.

Panalba is effective (in vitro) against 30 common pathogens, including the ubiquitous staph. Use of Panalba *from the outset* (even pending laboratory results) can gain precious hours of effective antibiotic treatment.

Supplied: Capsules, each containing Panmycin* Phosphate (tetracycline phosphate complex), equivalent to 250 mg. tetracycline hydrochloride, and 125 mg. Albamycin,* as novobiocin sodium, in bottles of 16 and 100.

Usual Adult Dosage: 1 or 2 capsules 3 or 4 times a day.

Side Effects: Panmycin Phosphate has a very low order of toxicity comparable to that of the other tetracyclines and is well tolerated clinically. Side reactions to therapeutic use in patients are infrequent and consist principally of mild nausea and abdominal cramps.

Albamycin also has a relatively low order of toxicity. In a certain few patients, a yellow pigment has been found in the plasma. This pigment, apparently, a metabolic by-product of the drug, is not necessarily associated with abnormal liver function tests or liver enlargement.

Urticaria and maculopapular dermatitis, a few cases of leukopenia and agranulocytosis have been reported in patients treated with Albamycin. Most of these side effects usually disappear upon discontinuance of the drug.

Caution: Since the use of any antibiotic may result in overgrowth of nonsusceptible organisms, constant observation of the patient is essential. If new infections appear during therapy, appropriate measures should be taken.

Total and differential blood counts should be made routinely during prolonged administration of Albamycin. The possibility of liver damage should be considered if a yellow pigment, a metabolic by-product of Albamycin, appears in the plasma. Panalba should be discontinued if allergic reactions that are not readily controlled by antihistaminic agents develop.

*Trademark, Reg. U.S. Pat. Off.
The Upjohn Company
Kalamazoo, Michigan

Upjohn

Give Us A Trial On Your

TAYLOR BACK BRACE

Orders

- Send the following measurements: from level of shoulders to tip of sacrum; circumference of pelvis above trochanters; circumference of waist; height and weight.

CHRISTOPHER'S BRACE AND LIMB CO.

2231 Montana St.

KE 2-9690

EL PASO, TEXAS

UNIFORMS

Doctors • Nurses • Interns • Technicians
Poplin, Nylon, Dacron
White and Colors

SURE-FIT UNIFORM CO.

612 N. Oregon St. KE 2-1374 El Paso, Texas

C. G. McDow and Son, Props.

Rio Grande Pharmacy

419-421 South Stanton St. KE 2-4473 El Paso, Texas

Only at the Popular in El Paso . . .


A. G. SPALDING SPORTS EQUIPMENT

POPULAR DRY GOODS CO.

TAYLOR-SIMPKINS, INC.

MEDICAL OXYGEN

2123 Texas St. KE 3-0952 El Paso, Texas
Nights — Call LO 5-0359, or LO 5-3060

**MEDICAL CENTER
PHARMACY**
YOUR PROFESSIONAL PHARMACY
IN THE EL PASO MEDICAL CENTER
1501 ARIZONA AVE. PHONE KE 2-6968-69 EL PASO, TEXAS

We Carry A Complete Line of

DIABETIC FOODS AND SUPPLIES

McKEE PRESCRIPTION PHARMACY

107 East San Antonio Ave., El Paso
Dial KE 2-2693

For Your Convenience

Use Our Handy Charge-A-Plate Service!

the white house

El Paso, Texas

RICHARD E. MARTIN

MARTIN MORTUARY

Dial KE 2-3691

710 N. Stanton St.

El Paso, Texas

HARDING AND ORR

Funeral Home

EL PASO, TEXAS

320 Montana Ave.

KE 3-1646

Kaster & Maxon

Funeral Home

El Paso, Texas

KE 2-3431



GUNNING & CASTEEL DRUG STORES

"There is no finer prescription service . . . anywhere"

14 Conveniently Located Stores

El Paso, Texas



Front View — Enclosed Patio

Sandia Ranch Sanatorium, Inc.

6903 Edith N. E.

Diamond 4-1618

Albuquerque, New Mexico

Licensed by State Health Department as a Psychiatric Hospital of 68 Beds
For the Care and Treatment of Nervous or Mental Disorders

VARIOUS ACCEPTED FORMS OF THERAPY AVAILABLE

OCCUPATIONAL THERAPY AND OUTDOOR ACTIVITIES

CLINICAL LABORATORY AND ELECTROENCEPHALOGRAM

LIMITED FACILITIES FOR DOMICILIARY CARE

Favorable Year Round Climate — 20 Acres Landscaped Grounds

JOHN W. MYERS, M.D., Medical Director

ALAN JACOBSON, M.D., Psychiatrist

HENRY T. PENLEY, M.D., Psychiatrist

OVERTON CLINIC

300 Hughes Building

PAMPA, TEXAS

M. C. Overton, Jr., M.D.
Surgery and Gynecology

E. S. Williams, M.D.
Pediatrics and Obstetrics

J. R. Donaldson, M.D.
Surgery

G. R. Hrdlicka, M.D.
Radiology

C. M. Lang, M.D.
Surgery

R. W. Moore, M.D.
Internal Medicine

DUTTON LABORATORIES

FREDERICK P. BORNSTEIN, M.D.
(Certified by American Board of Pathology)
Pathological Anatomy and Forensic Pathology

RITA L. DON, M.D.
(Associate Fellow, American College of Allergists)
Allergy and Clinical Pathology

JOHN B. FRERICHS, M.D.
(Certified by American Board of Pathology)
Pathological Anatomy and Clinical Pathology

J. A. HANCOCK, Ph.D.
Consultant in Chemistry

616 Mills Bldg.
102 University Towers

KE 2-3901
El Paso, Texas



This beautiful, heated swimming pool highlights the spacious lawn and recreation area at Camelback Hospital. Other outdoor activities include volley ball, ping pong, shuffleboard and badminton, all under the supervision of a trained therapist. Those preferring restful relaxation may enjoy a quiet conversation in the beautiful lawn and grove area with its scenic mountain backdrop.

Located in the heart of the beautiful Phoenix citrus area near picturesque Camelback Mountain, the hospital is dedicated exclusively to the treatment of psychiatric and psychosomatic disorders, including alcoholism.

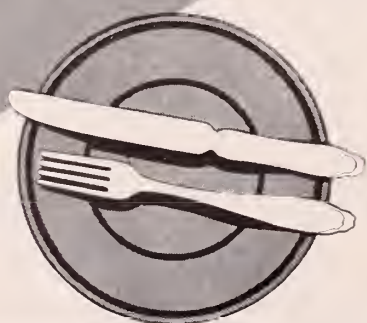
Camelback Hospital

5055 North 34th Street
AMherst 4-4111
PHOENIX, ARIZONA

OTTO L. BENDHEIM, M.D., F.A.P.A., Medical Director

FETAMIN

FOR OBESITY



Mission
PHARMACAL CO.
SAN ANTONIO, TEXAS

- More Powerful
- Less Pressor Activity
- Avoids Nervous Side Effects
- Complete Dietary Supplement

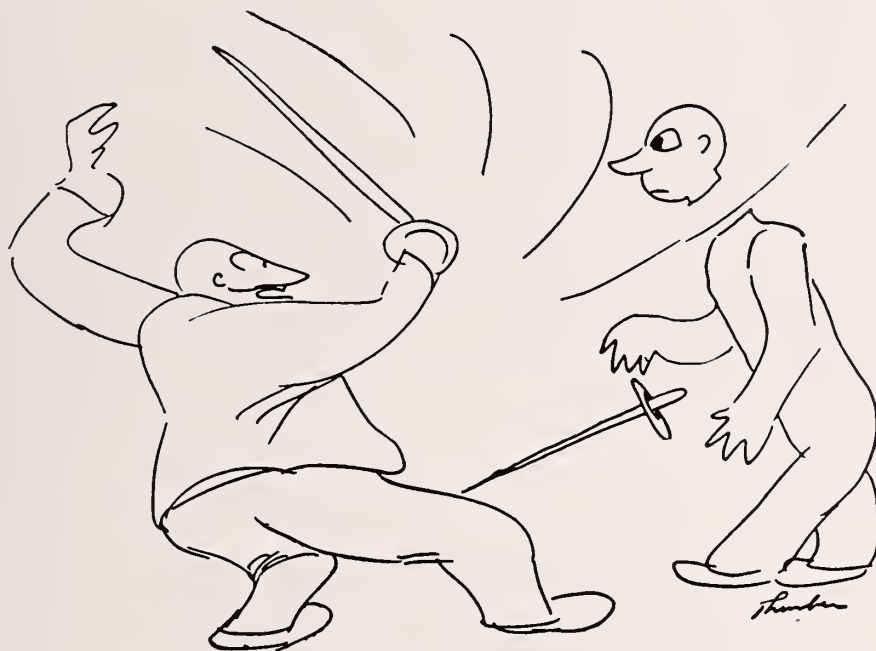
Southwestern Surgical Supply Company

Your Complete Source in The Southwest
For All
Ethical Medical Equipment
and Supplies

EL PASO

ALBUQUERQUE

PHOENIX



"Touché!"

COPY. © 1932 JAMES THURBER

For a better way to treat headache,
prescribe **Trancoprin[®]**

How Trancoprin relieves pain: Because most pain is accompanied by muscle spasm and tension, good medical practice suggests use of an analgesic that will relax skeletal muscles as well as dim pain perception. Such an analgesic is Trancoprin — a combination of aspirin and Trancopal[®], a proved, safe, skeletal muscle relaxant and tranquilizer. Trancoprin can be prescribed for any pain, except pain of such severity that a narcotic is needed.

Dosage: Adults, 2 tablets three or four times daily; children (5 to 12 years), 1 tablet three or four times daily. Each tablet contains 300 mg. of aspirin and 50 mg. of Trancopal (brand of chlormezanone). Bottles of 100 tablets.

Winthrop LABORATORIES
New York 18, N.Y.


1572M

Over 600,000,000
patient-days of
effective, well-toler-
ated antihypertensive
therapy...

Rauwiloid[®]

alseroxylon, 2 mg.

is still unexcelled



**Just
two tablets
at bedtime**

Eight years of continuous use...
prove enduring patient-accept-
ance and physician-satisfaction
with RAUWILOID...*without any re-
visions of claims, changes of dosage,
or additional side actions encountered.*

Rauwiloid is an original development of



Northridge,
California

Janet Doe, Librarian
New York Academy of Medicine
2 East 103 Street
New York 29, New York

Southwestern MEDICINE

Official Journal of The Southwestern Medical Association,
The Western Association of Railway Surgeons, The Southwest Obstetrical and Gynecological Society,
Southwestern Dermatological Society, Texas District One Medical Association,
The Southwestern New Mexico Medical Society, and El Paso County Medical Society

Make This Meeting a "Full House"

SOUTHWESTERN MEDICAL ASSOCIATION

43rd Annual Meeting

Oct. 19-21, 1961

**The Tropicana
Las Vegas, Nev.**

LIBRARY
AUG 15 1961
NEW YORK ACADEMY
OF MEDICINE

Contents on Page 348

August, 1961

VOL. 42, NO. 8



Founded 1916

in allergies For smooth,
continuous control of allergic symptoms—relief in minutes for hours, with
virtually no side-effects. And there is a dosage form for every allergic patient.
Pulvules® • Suspension • Pediatric Pulvules **Co-Pyronil®**

(pyrrobutamine compound, Lilly)

158007





LOMOTIL®

(brand of diphenoxylate hydrochloride with atropine sulfate)

- * lowers motility
- * **controls diarrhea**

Lomotil brings prompt symptomatic control in diarrhea, either acute or chronic.

Both pharmacologic and clinical evidence indicate that *Lomotil* selectively lowers the propulsive component of gastrointestinal motility without relaxing intestinal sphincters. So efficient is this action that studies in mice have shown *Lomotil* to be effectively antidiarrheal in one-eleventh the dosage of morphine.

Such striking antidiarrheal activity strongly suggests that *Lomotil* is the drug of first choice for prompt and positive control of diarrhea.

Dosage: The recommended initial dosage for adults is two tablets (2.5 mg. each) three or four times daily, reduced to meet the requirements of each patient as soon as the diarrhea is under control. Maintenance dosage may be as low as two tablets daily. *Lomotil* is supplied as unscored, uncoated white tablets of 2.5 mg., each containing 0.025 mg. of atropine sulfate to discourage deliberate overdosage. Recommended dosage schedules should not be exceeded.

An exempt preparation under Federal Narcotic Law.

Descriptive literature and directions for use available in Physicians' Product Brochure No. 81 from G. D. Searle & Co., P.O. Box 5110, Chicago 80, Illinois.

G. D. SEARLE & CO.

CHICAGO 80, ILLINOIS

Research in the Service of Medicine



Like oil on troubled waters

When smooth muscle spasm
gets rough on your patients...



TABLETS • CAPSULES • ELIXIR • EXTENDED RELEASE

In each Tablet, Capsule or tsp. (5 cc.) of Elixir			
Hyoscyamine sulfate	0.1037 mg.		0.311
Atropine sulfate	0.0194 mg.		0.058
Hyoscine hydrobromide	0.0065 mg.		0.019
Phenobarbital	($\frac{1}{4}$ gr.) 16.2 mg.	($\frac{3}{4}$ gr.) 48.	

*Prescribed by more physicians
than any other antispasmodic*



DONNATAL[®]



NATURAL BELLADONNA ALKALOIDS PLUS PHENOBARBITAL

H. ROBINS CO., INC., RICHMOND 20, VIRGINIA • Ethical Pharmaceuticals of Merit since 1878

Southwestern Medicine

*The U. S.-Mexico Regional Medical Journal Serving West
Texas, New Mexico, Arizona, Nevada and Northern Mexico*

Official Journal of

The Southwestern Medical Association, The Western Association of
Railway Surgeons, The Southwest Obstetrical and Gynecological
Society, The Southwestern Dermatological Society, Texas
District One Medical Association, The Southwestern
New Mexico Medical Society, and El Paso County
Medical Society

VOL. 42 AUGUST, 1961 No. 8

BOARD OF MANAGERS

Sherwood Burr, M.D.	Leland Evans, M.D.
Harold J. Beck, M.D.	Darwin Neubauer, M.D.
David Russek, M.D.	Carlos Tapia, M.D.
M. D. Thomas, M.D.	Louis W. Breck, M.D.
John Dettweiler, M.D.	H. D. Garrett, M.D.
Russell L. Defer, M.D.	Jack A. Bernard, M.D.
Louis G. Jekel, M.D.	Morton H. Leonard, M.D.
John F. Wanless, M.D.	

EDITOR Lester C. Feener, M.D.
404 Banner Building, El Paso, Texas

MANAGING EDITOR Louis W. Breck, M.D.
1220 North Stanton Street, El Paso, Texas

ASSOCIATE EDITORS
Branch Craige, M.D. Maurice P. Spearman, M.D.

ADVERTISING AND SUBSCRIPTION OFFICES

Mott, Reid & McFall

Publishers

310 N. Stanton St., El Paso, Texas

Publication Office

265 Texas St., Fort Worth, Texas

Subscription Price \$5.00 — Single copies 50c

Published Monthly

Gordon M. Marshall — National Advertising Representative
30 West Washington Street, Chicago, Ill., Dearborn 2-5148;
Eastern Office — John H. Hinse, Room 340, 15 West 44th Street
New York 36, Oxford 7-5262.

Second-class mail privileges authorized at Fort Worth, Texas
Postmaster: All undeliverable copies returnable under Form 3579
should be to Southwestern Medicine, 310 North Stanton Street,
El Paso, Texas.



Providence Memorial Hospital

The Modern Hospital of the Southwest

APPROVED BY THE JOINT COMMISSION ON ACCREDITATION OF HOSPITALS

COMPLETE DIAGNOSTIC and TREATMENT FACILITIES

ISOTOPE THERAPY AND STUDIES

COBALT 60 ROTATIONAL TELETHERAPY UNIT

OUTSTANDING CHEMISTRY LABORATORY

FACILITIES FOR PSYCHIATRIC THERAPY

ELECTROENCEPHALOGRAPHIC LABORATORY

2001 North Oregon Street

• El Paso, Texas



He needs his muscles working properly—
when they aren't, he needs

Trancopal

How to use *Trancopal*[®] Brand of chlormezonone in musculoskeletal “splinting”

Although “splinting” of a joint by skeletal muscle spasm is often protective, it can go too far or continue too long. Then spasm, pain and disuse may lead to wasting.

When you prescribe Trancopal, you can prevent “oversplinting.” Trancopal will relax the spasm, ease the pain and get the muscle working again. Relaxation generally begins within half an hour, and the effects of one tablet last from four to six hours.

In addition to relaxing the muscle, Trancopal will mildly tranquilize the patient, reducing the restlessness and irritability that so often accompany discomfort. With Trancopal, the patient can soon start purposeful exercise and physical therapy.

Trancopal has been found very effective in the treatment of patients with low back pain (lumbago), neck pain (torticollis), bursitis, fibrositis, myositis, ankle sprain, tennis elbow, osteoarthritis, rheumatoid arthritis, disc syndrome and postoperative muscle spasm. Trancopal is available in 200 mg. Caplets[®] (green colored, scored) and in 100 mg. Caplets (peach colored, scored), bottles of 100.

Dosage: Adults, 1 Caplet (200 mg.) three or four times daily; children (5 to 12 years), from 50 to 100 mg. three or four times daily.

Winthrop LABORATORIES
New York 18, N.Y.

1591M



rhinal

nose drops

**In Nasal Decongestant Therapy
when effective shrinkage
is desired in treating
Colds • Sinusitis
Allergic Rhinitis**

- Rapid and prolonged action
- Small dosage—well tolerated
- Physiological rationale

Contains:

Phenylephrine Hydrochloride 0.15%,
'Propadrine' Hydrochloride 0.3%
In an Isotonic Saline Menstruum.

*Samples on
request.*



*Prescribed by
physicians for
over 25 years.*

RHINOPTO COMPANY 3905 Cedar Springs • Dallas, Texas

Q
U
A
L
I
T
Y



P
A
P
E
R
S

EXAMINATION TABLE ROLLS

All Sizes Available
Smooth and Crepe Paper

PROFESSIONAL TOWELS

Best Quality Cellulose
White and Green

ASK YOUR SUPPLIER FOR TIDI.

TIDI PRODUCTS are always of best quality,
uniform, and economical in use.

Distributed throughout the USA

M'd. by TIDI PRODUCTS, Pomona, California

Full Antispasmodic Action



Four times more po-
tent than atropine in
Depressing Ganglionic
Transmission



Homapin[®] 4



Dyspepsia, Nausea,
Regurgitation



Ulcers, Cholecystitis,
Enteritis or Pelvic
Disease

A Single Pure Synthetic Alkaloid



No Drying, Flushing
or Visual Blur

MISSION PHARMACAL CO.
SAN ANTONIO, TEXAS



For allergy
For itch

Everyday practice report:

Following initial clinical investigational work, Forhistal was sent to physicians throughout the country for evaluation as an antiallergic and antipruritic agent in everyday practice. Results in 6181 cases have now been analyzed. In 3419 cases in which a comparison was made, Forhistal was judged better than previous therapy in 7 out of 10 patients. Information about the investigational work done previously is being mailed to you separately and is also available on request.

SUPPLIED: *Tablets*, 1 mg. (pale orange, scored). *Lontabs*, 2.5 mg. (orange). *Syrup* (pink), containing 1 mg. Forhistal maleate per 5-ml. teaspoon. *Pediatric Drops* (pink), containing 0.5 mg. Forhistal maleate per 0.6 ml.

For complete information about Forhistal (including dosage, cautions, and side effects), see Physicians' Desk Reference or write CIBA, Summit, N.J.

FORHISTAL® maleate (dimethpyrindene maleate CIBA)
LONTABS® (long-acting tablets CIBA)

new
Forhistal®
rated better
than previous
therapy in
7 cases
out of 10

C I B A
SUMMIT, NEW JERSEY

2/2910MK-1

Contents

Santa Fe Seminar—Early Carcinoma of the Uterine Cervix.....	Page 355
St. Vincent Hospital, Santa Fe	
Program Chairman: Harry D. Ellis., M.D.	
Case Presentation: Willis W. Pickel, M.D.	
Discussion: Thomas R. Simon, M.D.	
American Fracture Association to Meet in Washington.....	Page 362
Viruses and the Central Nervous System.....	Page 363
By M. Nathan Kleban, M.D., El Paso	
Coming Meetings.....	Page 368
Western Association of Railway Surgeons to Meet September 28-30 in Reno.....	Page 369
Speakers Named for Southwestern Medical Association Meeting	Page 370



Located in the heart of the beautiful Phoenix citrus area near picturesque Camelback Mountain, the hospital is dedicated exclusively to the treatment of psychiatric and psychosomatic disorders, including alcoholism.

The casual atmosphere of Camelback Hospital is one of relaxed Western living. Looking east, Camelback Mountain provides the background for the lovely lawn and grove area. The natural beauty of the surroundings at Camelback Hospital creates, for the patient, a restful, scenic setting.

Camelback Hospital

5055 North 34th Street
AMherst 4 4111
PHOENIX ARIZONA
OTTO L. BENDHEIM, M.D. F.A.P.A. Medical Director



COMPOSITION PER LITER

Dextrose Gm.	Milliequivalents					Calories	mOs.
	Na ⁺	K ⁺	CL ⁻	Lact ⁻ *	HPO ₄ ⁼		
50	40	35	40	20	15	180	400

*Bicarbonate precursor

† Border, J., Tolbot, N., Terry, M., and Lincoln, G.: Use of Multiple Electrolyte Solution to Prevent Disturbances in Water and Electrolyte Metabolism, *Metabolism* 9:897-904 (October) 1960.

† FOR EFFECTIVE
FLUID MAINTENANCE
THERAPY

ISOLYTE™ M

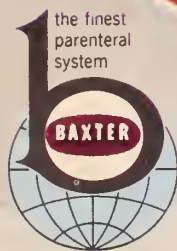


the finest
parenteral
system

DON BAXTER, INC.

GLENDAL, CALIF.

Safety through simplicity



DON BAXTER, INC. • GLENDALE, CALIFORNIA





ENDS ITCH FAST

ORAL ALLERCUR REACHES
THE SKIN IN 10 MINUTES¹
FOR PROLONGED RELIEF

Allercur is the systemic answer to a dermatology problem. This single agent provides fast, prolonged relief of itching, both allergic and nonallergic, with only 2 to 4 tablets daily—without timed-release devices. Drowsiness and other side effects are of low degree. Unlike topical preparations, Allercur frees the patient of messy, inconvenient local application. Many risks of systemic phenothiazine and glucocorticoid therapy are decreased.

Effective: "An excellent or good antipruritic response occurred in 69 patients (79.5%). No toxic reactions occurred and there were virtually no side effects. Particularly notable were the absence of drowsiness and the rapidity with which the remission of itching occurred."² Allercur is also effective in the management of conditions such as nasal allergy, including seasonal hay fever.

CAUTION: If drowsiness occurs, patients should avoid activities demanding alertness.

AVERAGE DOSE: 2 to 4 tablets daily in divided doses.

SUPPLIED: Tan, scored tablets, each containing 20 mg. clemizole HCl, in bottles of 100.

REFERENCES: 1. Kimmig, J.: *Hautarzt* 3:414 (Sept.) 1952.
2. Butler, P.G.: *Western Med.* 1:16 (Nov.) 1960.
Bibliography on request.



New York 17, N. Y.
Division, Chas. Pfizer & Co., Inc.
Science for the World's Well-Being®



when allergies occur **R_x**

ALLERCUR*

*Reg. T. M., Schering, A. G., Berlin

(clemizole HCl)

New approach to acne



pHisoHex[®] and pHisoAc[®] Cream

"No patient failed to improve" when pHisoHex (containing 3 per cent hexachlorophene) was added as the antibacterial wash to the standard treatment for acne. pHisoHex provides not only superior cleansing but also continuous antibacterial action for patients with acne. Now, with new pHisoAc keratolytic cream the management of patients with acne is simplified and even more effective. pHisoAc is applied topically once or twice daily to suppress and mask lesions and to dry, peel and degerm the skin. When used together, pHisoHex and pHisoAc are a potent complementary combination against acne.

Winthrop LABORATORIES
New York 18, N. Y.

1. Hodges, F.T.: GP 14:86, Nov., 1956.

pHisoHex and pHisoAc, trademarks reg. U. S. Pat. Off.

WHAT DISTINGUISHES DEVEREUX

in its service to children who need remedial education? It furnishes —

1. Group living and learning experience with others of a similar aptitude and level of development.
2. The functioning of a multidisciplinary team with long experience in evaluating potential and in structuring programs in a residential setting unique in its wide range of homogeneous groupings.
3. A philosophy of optimum blending of traditional methods with the best of the new from the frontiers of research.
4. Established programs of diagnosis, treatment, research, and training soundly based on the wide spectrum of a multidisciplinary team of experts.

Serving the East Coast, Devereux Schools are located at Devon, Pennsylvania (Mr. Charles J. Fowler, Director of Admissions); serving the West Coast, Devereux Schools at Santa Barbara, California (Mr. Keith A. Seaton, Registrar); and serving the Southwest, Devereux Schools at Victoria, Texas (Mr. John M. Barclay, Director of Development). Your inquiries are welcomed.

THE DEVEREUX FOUNDATION

A nonprofit organization
Founded 1912
Devon, Pennsylvania
Santa Barbara, California
Victoria, Texas

SCHOOLS
COMMUNITIES
CAMPS
TRAINING
RESEARCH

HELENA T. DEVEREUX
Administrative Consultant

EDWARD L. FRENCH, Ph.D.
Director

during pregnancy...
throughout lactation

Natabec[®] Kapseals[®]

prenatal vitamin-mineral formula

Prescribed as a prenatal supplement, NATABEC provides 10 vitamins with calcium and iron plus intrinsic factor concentrate and rutin. These easy-to-swallow Kapseals compensate for the increased demands of pregnancy and lactation...help to promote better health for both mother and child. Each NATABEC Kapseal contains: Calcium carbonate—600 mg.; Ferrous sulfate—150 mg.; Vitamin A (1.2 mg.)—4000 units; Vitamin D (10 mcg.)—400 units; Vitamin B₁ (thiamine) mononitrate—3 mg.; Vitamin B₂ (riboflavin)—2 mg.; Vitamin B₁₂ (crystalline)—2 mcg.; Folic acid—0.25 mg.; Synkamin[®] (as the hydrochloride)—0.5 mg.; Rutin—10 mg.; Nicotinamide (niacinamide)—10 mg.; Vitamin B₆ (pyridoxine hydrochloride)—3 mg.; Vitamin C (ascorbic acid)—50 mg.; Intrinsic factor concentrate—5 mg. Dosage: One Kapseal daily or as directed by the physician. Supplied: NATABEC Kapseals are available in bottles of 100 and 1,000.

59161

PARKE-DAVIS

PARKE, DAVIS & COMPANY, Detroit 22, Michigan

***“my
mom
took
Natabec...
so we’re
both
doing
fine”***

new Tandearil®

brand of oxyphenbutazone

Geigy

inflammation takes flight



a new development in nonhormonal, anti-inflammatory therapy

more specific than steroids—

Acts directly on the inflammatory lesion **without** altering pituitary-adrenal function . . . **without** impairing immunity responses.^{8,11}

more dependable than enzymes—

Rapid and complete absorption, without the uncertainty of oral or buccal enzyme therapy.⁹

more potent than salicylates—

Anti-inflammatory potency of Tandearil markedly superior to aspirin.¹²

Remarkably useful in a wide variety of inflammatory conditions, including: rheumatoid arthritis, spondylitis, osteoarthritis^{1,2,3}; gout^{1,4,5}; acute superficial thrombophlebitis^{6,7}; painful shoulder (peritendinitis, capsulitis, bursitis, and acute arthritis of that joint)^{1,4}; severe forms of a variety of local inflammatory conditions^{8,9,10}.

The physician should be thoroughly familiar with the dosage, side effects, precautions and contraindications of Tandearil before prescribing. Full product information available on request.

availability:

Round, tan, sugar-coated tablets of 100 mg. in bottles of 100 and 1000.

references:

1. Graham, W.: Canad. M.A.J. **82**:1005 (May 14) 1960.
2. Vaughn, P. P.; Howell, D. S., and Kiem, I. M.: Arth. and Rheumat. **2**:212, 1959.
3. O'Reilly, T. J.: J. Irish M.A. **46**:106, 1960.
4. Connell, J. F., Jr., and Rousselot, L. M.: Am. J. Surg. **98**:31, 1959.
5. Brodie, B. B., et al., in Contemporary Rheumatology 1956, p. 600.
6. Stein, I. D.: Ann. N. Y. Acad. Sc. **86**:307 (March 30) 1960.
7. Barczyk, W., and Röth, W.: Praxis **49**:589, 1960.
8. Miller, J. M., et al.: Antibiotic Med. and Clin.

- Therap. **7**:109, 1960.
9. Connell, J. F., Jr., and Rousselot, L. M.: Am. J. Surg. **97**:429, 1959.
 10. Summary of individual case histories submitted to Geigy.
 11. Domenjoz, R.: Ann. N. Y. Acad. Sc. **86**:263, 1960.
 12. Smyth, C. J.: Ann. N. Y. Acad. Sc. **86**:292, 1960.

Geigy Pharmaceuticals
Division of Geigy Chemical Corporation
Ardsley, New York
545-61

Early Carcinoma of the Uterine Cervix

Program Chairman: HARRY D. ELLIS, M.D.

Case Presentation: WILLIS W. PICKEL, M.D.

Discussion: THOMAS R. SIMON, M.D.

Case Presentation: Willis W. Pickel, M.D.

Case #1. The first case for discussion this evening is that of a 36 year old white woman in good health and without symptoms, who was given a routine periodic examination in 1956, and the cytologic smears taken from her cervix at that time revealed suspicious cells (Papanicolaou Class IV). Biopsy material taken from her cervix a short time later revealed an in situ carcinoma. Following this a total hysterectomy was done. Pathologic examination of the cervix revealed residual areas of in situ carcinoma and a single area of possible superficial invasion. No further treatment was undertaken. She is living and well four years and three months later.

Harry D. Ellis, M.D.

This first slide (Figure 1) shows a cluster of highly suspicious cells. I think everyone will agree that these should be classified as either Class IV or perhaps Class V.

The second slide from this case (Figure 2) shows a low power view of the cervical epithelium and towards the center you will notice an area in which the line between the epithelium and its supporting stroma becomes quite fuzzy. We did

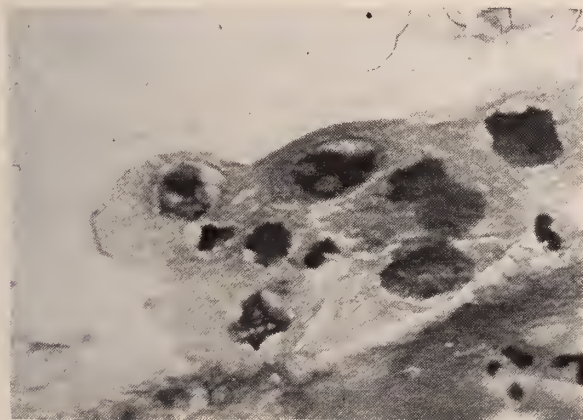


Figure 1

Case #1. Cytologic smear from cervix.

Program supported by a grant-in-aid from Merck, Sharp and Dohme post-graduate program.

ST. VINCENT HOSPITAL, Santa Fe



Figure 2

Case #1. Biopsy of cervix.

not feel this was clear cut evidence for micro-invasion but did note that some people might consider it so.

The next slide (Figure 3) is a higher magnification taken to show the rather marked variations in size, shape and staining of the cervical epithelial cells. The changes are present throughout the thicknesses of the epithelium and we felt that this did indeed represent surface or in situ carcinoma.

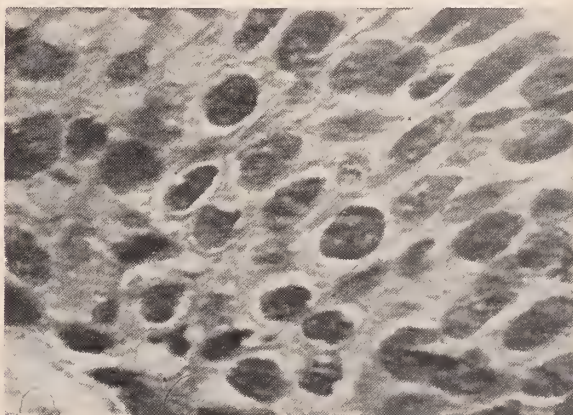


Figure 3

*Case #1. Biopsy of cervix.
(Higher magnification.)*

At this time I would like to introduce our guest speaker, Dr. Thomas R. Simon. Dr. Simon is Associate Professor of Pathology at Creighton University School of Medicine and is chief pathologist at the Creighton Memorial St. Joseph's Hospital. Dr. Simon is also the chairman of the Cytology Council of the American Society of Clinical Pathologists.

We are very fortunate in having a person with this background to conduct our seminar this evening, Dr. Simon.

Discussion: Thomas R. Simon, M.D.

This case illustrates the true value of routine cervical cytology. For two reasons carcinoma in situ is usually not visible to the naked eye. First, since it is only a few cell layers in thickness and since none of these is usually keratinized, the lesion tends to be transparent or translucent.

Secondly, the majority of these lesions, perhaps nine of ten, are located on the endocervical side of the squamocolumnar junction. In a series of 78 carcinomas in situ which we studied at one time 28, or 36 per cent, occurred in cervixes which were considered entirely normal by the gynecologist, 45 showed gross erosion, ectropion, or evidence of inflammation, and just 5, or 6 per cent, showed gross leukoplakic areas which corresponded to the areas of in situ carcinoma.

The second point that this case brings up is the interpretation and importance of superficial infiltration. I think everyone is agreed that glandular extension is not evidence of invasion. Dr. Ellis and I agree that the term micro-invasive carcinoma should be reserved for those cases in which there are finger like extensions through the basement membrane which are not confluent and are not infiltrating lymphatic vessels. I would agree in reporting this case as "in situ carcinoma with some suspicion of microinvasion."

It is theoretically true that once tumor breaks through the basement membrane it has access to lymphatic vessels and, therefore, might well metastasize; so that it has often been said that the difference between early carcinoma and late carcinoma of the cervix is the barely demonstrable basement membrane. However, accumulated evidence suggest that this is not the case. Almost never has there been observed lymph node metastases from micro-invasive carcinoma.

Fidler and Boyes¹ report a series of 26 cases of micro-invasive carcinoma in none of which was there recurrence or metastasis. They suggest that the micro-invasive period is a relatively long one in which the host is exerting resistance to the growth of tumor, evidence of which they suggest can be seen histologically in one-half their cases. Therefore, our clinicians, like many others feel that sufficient treatment for in situ carcinoma with micro-invasion is hysterectomy.

Dr. Pickel

Case #2. The second case is that of a 47 year old woman whose pelvic examination revealed a small area which bled easily in an otherwise normal appearing cervix. Cytologic smears revealed suspicious cells (Papanicolaou Class IV) and subsequent biopsy of the cervix demonstrated both in situ and infiltrating carcinoma. Radiation therapy was given.

Dr. Ellis

The first slide in this case shows a cluster of highly suspicious cells (Figure 4). The second



Figure 4
Case #2. Cytologic smear from cervix.

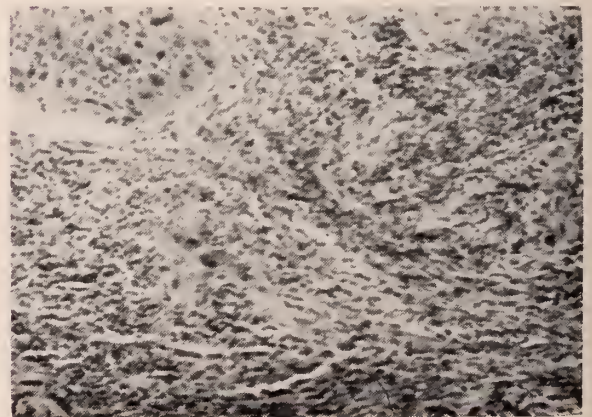


Figure 5
Case #2. Biopsy of cervix.

slide in this case simply shows an area of infiltrating carcinoma. There is a cluster of neoplastic cells in the upper left and in the middle of the picture which are somewhat obscured by a heavy surrounding inflammatory infiltrate (Figure 5).

Discussion: Dr. Simon

Under these conditions this case might also be considered a cytologic triumph although I suppose an area which bled easily would have been biopsied in the absence of cytologic studies. I mentioned in the previous case that carcinoma in situ is usually not visible to the naked eye, and I am sorry to have to report that in our hands the same may be true even of invasive carcinoma.

Among 25 invasive carcinomas which we have seen in the last three years, three occurred in cervixes that were described by the clinicians as grossly normal, two of these were treated surgically and in one we were able to find no gross lesion in the laboratory although microscopic examination proved that the tumor extended to a depth of approximately one cm.

We feel that it is possible in almost every instance to predict the presence of invasion from the cytologic smears, and we modify the Papanicolaou classification so that in our terminology class IV means "suggesting in situ carcinoma," class V means "suggesting invasive carcinoma." Since we have adopted this practice I am aware of only one invasive carcinoma in which we did not suggest the likelihood of invasion cytologically.

On the other hand, among our cases which eventually proved to be in situ carcinoma, we had suggested the possibility of invasion falsely in approximately 30 per cent. Since in following our cases we rely heavily on punch biopsies, with which it is obviously not possible to rule out invasion, we feel that it is important to use this added guard against the possibility of invasion.

Even in the cases which have had cone biopsies we have used the cytologic suggestion of invasion to indicate continued study when only in situ carcinoma had been demonstrated, and in four such instances were eventually able to demonstrate invasion in additional material or in further study of the material available.

The criteria for invasion from a cytology smear are certainly not specific. They are: 1) presence of necrosis of epithelial cells and broken down red blood cells, 2) presence of bizarre forms of

tumor cells, 3) presence of macronucleoli in tumor cells, and 4) presence of large numbers of inflammatory cells and abnormal bacterial flora.

There is some difference of opinion concerning the value of cytology in the presence of gross lesions. It is our feeling that gross lesions should be evaluated both by biopsy and cytologic smears. In addition cytologic diagnosis of invasive carcinoma is often somewhat more difficult than that of preinvasive carcinoma.

Dr. Pickel

Cases #3 and 4. The next two cases will be presented together. The first of the next two cases is that of a 43 year old woman in whom cytologic cervical smears revealed suspicious cells (Ayer's Class II B). These smears were taken during a routine examination. Biopsy of the cervix revealed chronic inflammation and epithelial dysplasia. The patient was followed with periodic cytologic smears and they were essentially normal for a period of one year. The smears then became highly suspicious (Ayer's Class III C).

On the basis of the smear report a total hysterectomy was done. Pathologic examination of the specimen removed revealed no areas of in situ or infiltrating carcinoma but there were areas of severe dysplasia and chronic inflammation of the cervix.

The second of these two cases is that of a 42 year old woman in whom routine cytologic smears revealed suspicious cells (Papanicolaou Class IV). Cervical biopsy revealed severe dysplasia and chronic inflammation. Endocervical and endometrial curettages were negative. Follow-up smears three months later revealed an absence of suspicious cells (Papanicolaou Class II).

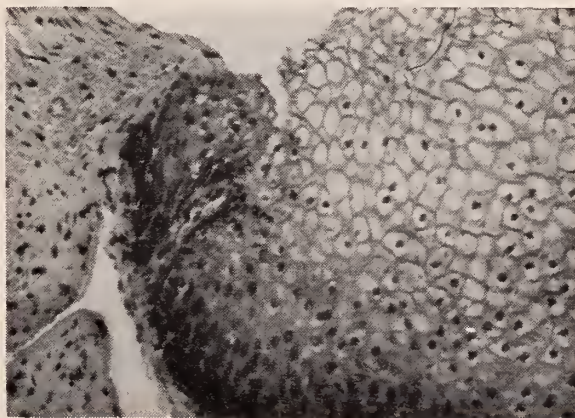


Figure 6
Case #3. Biopsy of cervix.

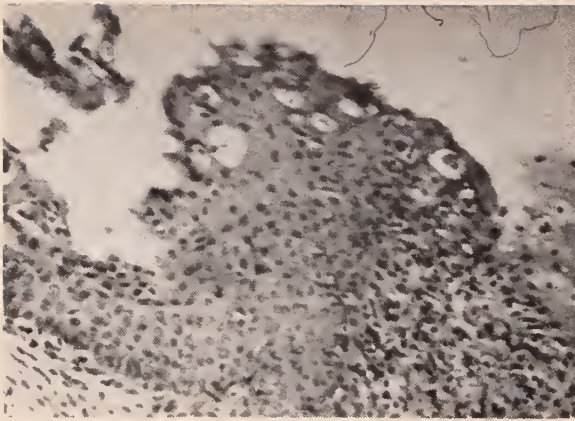


Figure 7
Case #3. Section of cervix from
hysterectomy specimen.

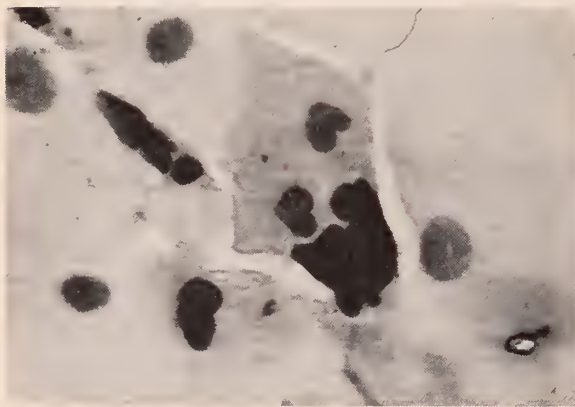


Figure 8
Case #4. Cytologic smear from cervix.

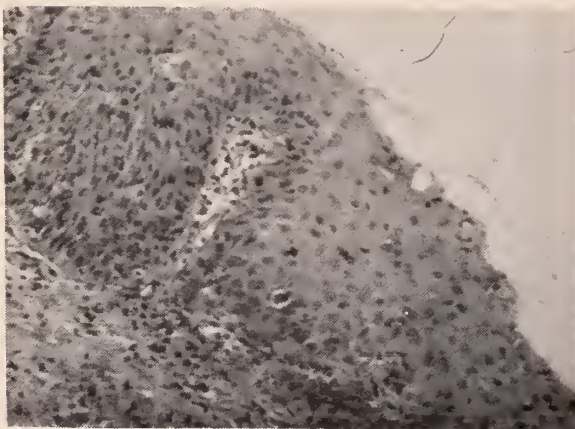


Figure 9
Case #4. Biopsy of cervix.

Dr. Ellis

I do not have a picture of the cells in the smears of the first of these two cases. This slide (Figure 6) is a picture of the original biopsy and it shows an area of mild dysplasia of the cervical epithelium. The next slide (Figure 7) is a photograph

of the cervical epithelium from the cervix after removal by hysterectomy. Here you see a moderate degree of pleomorphism of the epithelial cells, a fairly heavy subepithelial inflammatory infiltrate, and small clusters of polys wandering through the epithelium. We did not feel this was in situ carcinoma but rather inflammation and dysplasia.

The next slide is from case No. 4 (Figure 8) and is a picture of a few rather suspicious cells in the cytologic smear. The next slide (Figure 9) shows the epithelium as seen in the biopsy material. There is a moderate degree of pleomorphism here but we did not feel that the changes were those of in situ carcinoma but representative of a degree of epithelial dysplasia.

Discussion: Dr. Simon

The problem of dysplasia is one that has arisen since the advent of the more or less routine use of cytologic examination. By dysplasia we mean alterations in adult cells manifested by variations in size, shape and orientation, different by definition from anaplasia in that the changes are actually or potentially reversible.

Under the microscope the dysplasias in contrast to the in situ carcinomas are a heterogeneous group ranging from changes which vary from normal only slightly, up to changes which are practically indistinguishable from in situ carcinoma. Historically, dysplasia has been seen preceding and in association with carcinoma, in situ and invasive. With the exception of those dysplasias of the faintest degree of abnormality we have not found any group which consistently regresses, persists or advances.

Dysplasia has a tendency to appear on the portio vaginalis rather than in the canal; therefore, it tends to be detected in the cervical scraping rather than in the endocervical aspiration. Many cases show gross leukoplakia. In our hands, four point punch biopsy has cured fully one-third of the lesions, and we have no doubt that conization or cautery will cure the vast majority.

These cases point up the importance of correlating cytologic findings with histologic findings. I feel that one can hardly do consistently good cervical cytology or histology unless he has access to both smears and biopsies. Occasionally, we

diagnose smears as in situ carcinoma and find on biopsy only dysplasia.

Then review of the smears is imperative to see if they are explained by the biopsy or if they truly suggest that there is a lesion worse than the biopsy has revealed. One should not be satisfied with a diagnosis of dysplasia in the face of smears showing definite in situ carcinoma, keeping in mind that the two commonly coexist.

Dr. Pickel

Case #5. The 5th case is that of a 51 year old woman who had normal cervical smears in 1957, 1958 and in April, 1960 (Papanicolaou Class I). Physical examination in March, 1961, revealed the presence of an indurated purplish tumor mass surrounding the cervix and fornix, leaving the cervical os anatomically intact. The uterus was fixed and immobilized. Cytologic smears at this time revealed malignant cells (Papanicolaou Class V) and biopsy revealed an anaplastic infiltrating carcinoma.

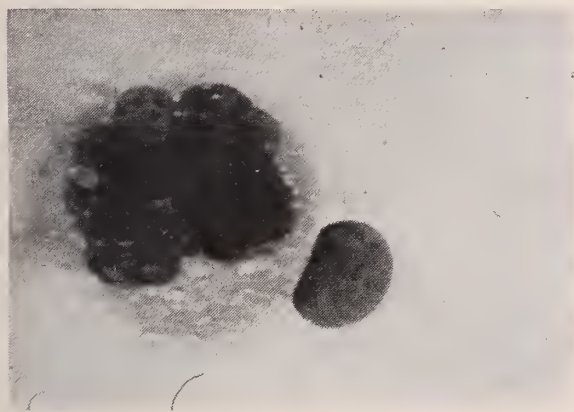


Figure 10
Case #5. Cytologic smear from cervix.

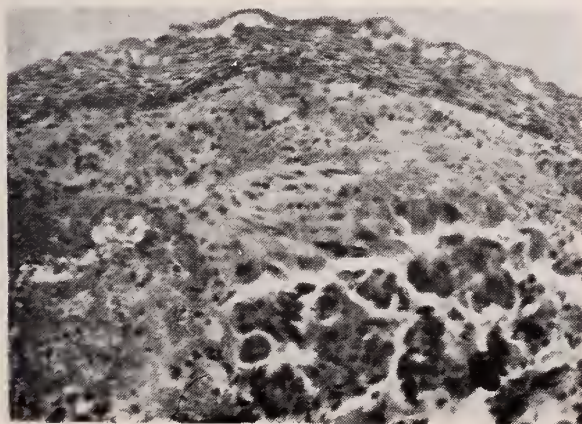


Figure 11.
Case #5. Biopsy of cervix.

Dr. Ellis

The first slide from this case (Figure 10) shows a large neoplastic cell as seen in the cytologic smear and the second slide, (Figure 11) shows a mass of highly anaplastic tumor cells lying in this picture, a short distance beneath a covering rim of epithelium. In other areas this tumor did ulcerate through the surface.

Discussion: Dr. Simon

This is an unusual and disturbing case, for it is obvious that periodic cytologic examination failed to protect this unfortunate patient from developing advanced pelvic carcinoma. We feel that since 1) in almost every case cervical epidermoid carcinoma goes through an in situ phase lasting several years and 2) cytologic study approaches 100 per cent accuracy in revealing the carcinoma during the in situ phase, employment of annual cytologic studies gives insurance against the development of advanced cervical epidermoid carcinoma.

There is some evidence that the same may be true for the relatively uncommon primary epidermoid carcinoma of vagina.

On review of the smears and biopsy in this case I agree that this is anaplastic carcinoma; however, I feel that there is a likely possibility that it is anaplastic adenocarcinoma and that it is metastatic to the site of the biopsy.

Dr. Pickel

Case #6. Case No. 6 is that of a 39 year old woman who reported to her physician for examination because of recent spotting. Examination of the cervix revealed a bleeding lesion of the cervical os. Cytologic smears were negative (Papanicolaou Class II). The biopsy specimen revealed the presence of an infiltrating squamous carcinoma. Radiation therapy was instituted.

Discussion: Dr. Simon

Well, I have run out of loop holes. The best thing I can say about this case is that there are not many like it. I looked at the smears before the meeting and would certainly agree that they are negative. It is not rare, as I mentioned earlier, that one has difficulty in finding suspicious cells in invasive carcinoma.

I don't recall our exact rate on this but I believe we have found malignant cells in about 85 per

cent of invasive carcinomas. However, in the remaining 15 per cent we have considered the smears suspicious because of the presence of necrosis, broken down blood, abnormal bacterial flora, etc. I don't know of another case that we have had that proved to be invasive carcinoma that had entirely negative smears.

Although it doesn't apply in this case, we might mention the reliability of different ways of taking smears. Originally we all examined vaginal smears only. It is our feeling that even in the best of hands, vaginal smears cannot find early carcinoma in more than 85 per cent of cases. On the other hand, we have found direct cervical smears to be positive or suspicious in about 97 per cent of cases of in situ carcinoma².

We advise the routine use of three smears, the cervical scraping, the vaginal aspiration, and the endocervical aspiration. The vaginal aspiration is superior in the detection of endometrial carcinoma and essential for hormonal evaluation. The endocervical aspiration is occasionally essential in the detection of in situ carcinoma arising high in the canal.

Dr. Pickel

Case #7. Our last case is that of a 32 year old woman in whom smears from the cervix were interpreted as Class IV, suspicious for in situ carcinoma, and a four point punch biopsy at that time showed carcinoma in situ in the 9:00 o'clock punch only. She was advised to come to the hospital for further treatment but did not return until three years later at which time she was seven months pregnant.

Cervical smears were again interpreted as Class V, suggesting carcinoma in situ. A cone biopsy sectioned in semi-serial fashion, showed extensive carcinoma in situ, not, however, extending beyond any of the margins of the excised specimen. At term a healthy child was delivered through normal channels. Subsequent cervical smears were negative. A hysterectomy was performed six weeks later and pathologic examination failed to reveal any residual tumor.

Discussion: Dr. Simon

In this case the cervix was originally considered grossly suspicious enough for biopsy, and smears taken at that time were suspicious for carcinoma.

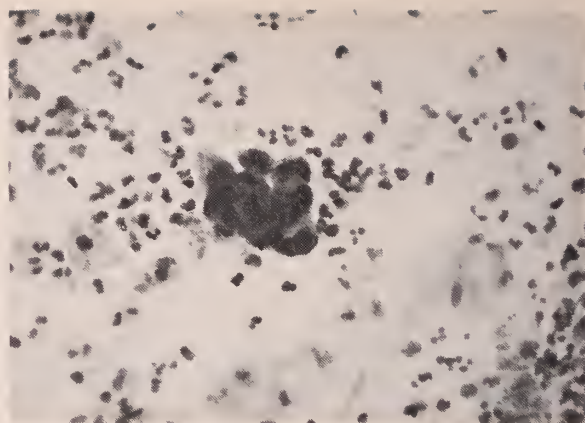


Figure 12
Case #7. Cytologic smear from cervix.

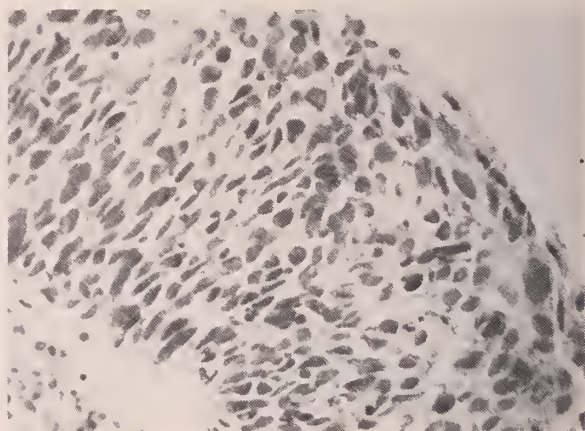


Figure 13
Case #7. Biopsy of cervix.

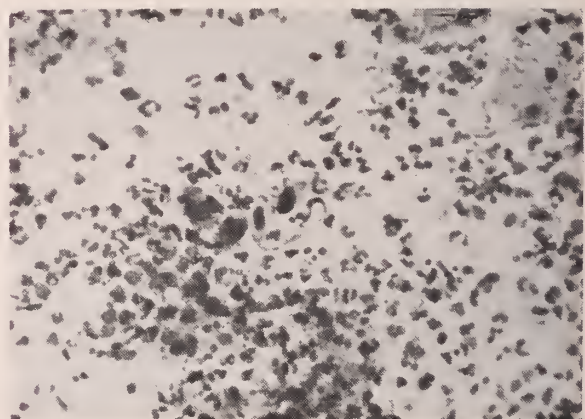


Figure 14
Case #7. Cytologic smear of cervix.

This slide (Figure 12) shows cells which are suspicious for in situ carcinoma. The next slide (Figure 13) shows an area of in situ carcinoma in the punch specimen.

We advised this woman to come to the hospital

to have a cone but she did not come back for over three years, at which time she was seven months pregnant. Again there were suspicious cells in her cytologic smear (Figure 14). The cone (Figure 15) showed extensive areas of carcinoma in situ.

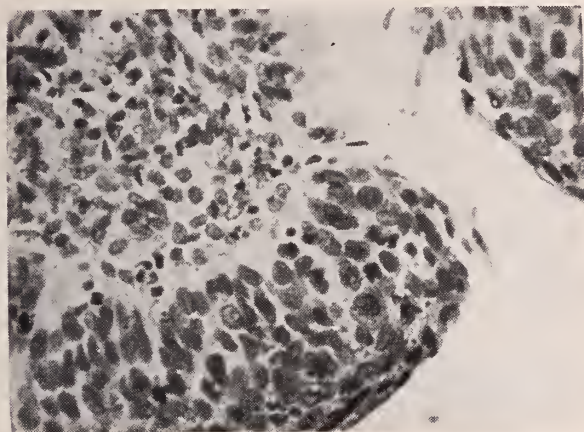


Figure 15
Case #7. Biopsy of cervix.

First, this case shows that carcinoma in situ may stay about the same for a considerable period of time. There have been very few cases closely followed in their entire course from normal, through in situ carcinoma, to invasive carcinoma. So that what information we have about the duration of the in situ phase is mostly from retrospective studies and from the difference in mean age between in situ and invasive carcinoma at the time of diagnosis.

From these it seems that the average duration of the in situ phase is eight to ten years. The few prospective studies I know of confirm this impression and further indicate that this phase is almost never less than one year in duration.

The second problem here is that of in situ carcinoma in pregnancy. Although it has been suggested that there is a reversible atypia (dysplasia), peculiar to pregnancy, which is indistinguishable histologically from in situ carcinoma, we and, I believe, most others feel that dysplasia, though certainly more common in pregnancy, is like dysplasia in the non-pregnant, and in situ carcinoma is in situ carcinoma in or out of pregnancy.

We feel that both cytologic studies and biopsies are liable to be less reliable during pregnancy. In

our institution conization of the pregnant cervix has often been complicated by rather severe bleeding, but in no instance has it been implicated as interfering with the pregnancy.

The question arises as to what to do if the cone does not completely remove the lesion. Our choice has been to allow normal delivery, repeat the smears in four to six weeks, and if they are positive, proceed with hysterectomy. We have had one such case who had positive cytology at six weeks post-partum and micro-invasive carcinoma demonstrated in the hysterectomy specimen. She is well with no clinical disease after two years.

Discussion

Dr. Ellis

Dr. Milton Floersheim of Raton, New Mexico has a problem regarding treatment of a case of in situ carcinoma. His patient has a rather extensive in situ carcinoma and Dr. Floersheim has received suggestions for therapy which have ranged from x-ray therapy to simple hysterectomy to a radical Wertheim type of hysterectomy.

Dr. Simon

There is no agreement on the treatment of choice for in situ carcinoma of the cervix. In my opinion two of the methods you mention can be ruled out. (1) Although I would assume that x-ray therapy would effectively destroy this lesion, I am not aware of any organized proof of the efficiency of this method. In addition, there is the potential carcinogenic effect of radiation therapy in a group who may be expected to have long survival. Koss, Melamid, and Daniel³ have recently reported nine cases of in situ carcinoma of cervix and vagina following radiotherapy for cervical cancer. (2) Radical Wertheim type of hysterectomy seems to be much more than is indicated since in theory in situ carcinoma should not metastasize and in practice I am aware of only one case⁴ in which there was a metastasis from carcinoma of the cervix when careful study of the cervix failed to reveal invasion.

The most widely employed method of treatment of carcinoma in situ of the cervix is simple hysterectomy with an adequate vaginal cuff. However, under certain conditions we have relied upon conization as adequate therapy. These conditions include: (1) no tumor extension to

the cut margins of a completely studied conization specimen, (2) subsequent negative cytologic studies, (3) desire of patient to retain the uterus, usually because of the desire to have more children. To date we have had no case in which residual carcinoma was demonstrated after our study of the cone specimen had indicated that removal of the lesion had been complete.

Dr. Richard Angle

I have a 33 year old patient in whom the cytologic smear was reported as Class V. Cone biopsy is reported as completely negative. How would I handle this case?

Dr. Simon

I think that the first thing to do would be to review the cytology. I cannot visualize anything totally negative that would give rise to a Class V smear. I remember a case in which we had seven positive smears and five negative cervical biopsies, and finally examination revealed a small area of gross carcinoma of the vaginal wall.

I presume it is easy to miss a small carcinoma of the vagina, especially when the efforts are directed towards finding a lesion in the cervix. More likely for this case, however, would be that the lesion is high in the endocervical canal and was perhaps not included in the cone biopsy specimen. Certainly the smear should be repeated and a continued search be made for the source of the cells in the smears assuming that they remain positive.

Last year we saw an elderly patient in whom the smears were positive and the cone was negative. The uterus was removed and the report from the hysterectomy specimen was also negative. However, by re-examining the specimen very carefully, we were able to demonstrate an area of car-

cinoma in situ high in the endocervical canal. I think that this is somewhat more likely in the older age group in whom carcinoma tends to arise high in the endocervical canal.

Dr. Marcus J. Smith

Would you comment on the use of cytologic smears for follow-up of cases of cervical carcinoma after treatment by radiation?

Dr. Simon

Radiation produces profound changes in both squamous and endocervical cells and these changes may persist for long periods of time. To me, the cytologic changes in benign glandular cells are occasionally indistinguishable from those of adenocarcinoma.

Benign squamous cells show cellular and nuclear enlargement and smudging of nuclei which usually allow them to be distinguished from residual or recurrent carcinoma, in which the cells show sharp nuclear detail. In light of the previously mentioned study by Koss, careful cytologic follow-up of cases treated with radiation seems especially indicated.

My experience with cytologic prediction of radiation response is too limited to allow for comment on this aspect.

Dr. Ellis

Thank you very much Dr. Simon. I would like to take this opportunity to express my appreciation and the appreciation of the medical staff to you for your very fine discussions tonight. Our next seminar will be "Carcinoma of the Thyroid."

REFERENCES (Dr. Simon)

1. Fidler, H. K., and Boyes, D. A. *Cancer* 12: 673, 1959.
2. Simon, T. R., Durfee, G. R., and Ricci, A. *Trans. Third Ann. Meet. Inter-Society Cytology Council*, p. 77, 1955.
3. Koss, L. G., Melamid, M. R., and Daniel, W. W. *Cancer* 14: 353, 1961.
4. Decker, W. H. *Am. J. Obst. and Gynec.* 72: 116, 1956.

American Fracture Association to Meet in Washington

The 22nd annual meeting of the American Fracture Association will be held in Washington, D. C., September 16 through September 23, 1961, with a postgraduate course at the Georgetown University Medical Center.

Participating in a panel discussion of "Fractures of the Distal End of the Radius" will be Dr. W. Compere Basom, El Paso; Dr. Russell Harris,

Oklahoma City; Dr. William Johnson, Galesburg, Ill.; and Dr. Benjamin S. Meyer, Birmingham, Ala. Presiding over the panel will be Dr. Guillermo de Velasco Polo, well known orthopaedic surgeon from Mexico City. Another Southwesterner, Dr. Robert Elliott of Houston, will participate in a panel discussion on "Supracondylar Fractures of the Femur."

Viruses and The Central Nervous System*

M. NATHAN KLEBAN, M.D., *El Paso*

Viruses are agents responsible for the greatest amount of minor illness, infectious disease, time lost from school or work, and for seeking the services of physicians. To have "a virus" is almost synonymous with being sick. We may say that we have a cold; the flu, plain, Asian, or intestinal; a bug; the crud; the trots; and other terms, hackneyed or fresh. A virus infection is probably what we are describing. The virus is the biological minute particle of the mid-20th century.

Intense spreading interest in the virus was made possible by the discovery of antibiotics, which eliminate bacterial contaminating interference in their study, and by development of tissue culture techniques.

The established relationship of viruses to tumors in experimental animals and the possible connection with human cancers is engaging the attention of a large segment of workers in the field of cancer research.

Finally, viruses stand in the shadowy area between the living and the non-living. The answer to the fascinating question of what differentiates life from non-life may well lie in the structure and behavior of virus particles.

Luria, in 1953, defined viruses with these restrictions: viruses are entities, sub-microscopic in size, which reproduce only inside specific living cells, and into which they can be introduced from without.

This is his definition in 1958: that viruses be considered as "genetically specific cell constituents, containing coded DNA or RNA (deoxyribose nucleic acid and ribose nucleic acid) which can, as one of their genetic functions, determine their own incorporation into specific vehicles for transmission to other cells." DNA or RNA with protein overcoat are from 10-15 m μ up to 200-250 m μ in diameter. Red blood cells are about 7500 and bacteria about 750 m μ .

In 1891 Nordmeyer introduced a compressed infusorial earth material as a filter, named after the owner Berkefeld of the Kieselguhr mine in Hannover, which separates most bacteria from most viruses and from whence derives the term "filterable viruses". A Russian, Ivanovski, is credited with discovery of tobacco mosaic virus disease in 1892, which he thought was due to bacteria. Most viral work for many years was on this plant virus and the bacterial virus, phage.

In a discussion of the incidence of virus disease in man, whether of the central nervous system or not, there are several general things to be con-

*Presented at District One, Texas Medical Association, meeting at Pecos, Texas, Feb. 5, 1960.

sidered. Virus may be recovered from throat washings or stools in the absence of clinical illness. Studies have demonstrated a high rate of infection in families of polio patients. But manifestations of illness may range from none through symptoms of gastro-enteritis, upper respiratory infection or aseptic meningitis to paralytic polio.

Epidemic

During an epidemic of St. Louis encephalitis in Cameron County, Texas,¹ in 1957 the ratio of inapparent to apparent cases was 64:1. Influenza may cause illness ranging from a mild upper respiratory infection to a fatal pneumonia. On the other hand, what we term as influenza-like illness may be caused by some 10 different known viruses.

There is increasing evidence of overlapping of clinical manifestations by different viruses; without laboratory studies one may not be able to distinguish between a paralytic illness caused by a polio, Cocksackie or ECHO virus. One can't tell the players without a score card. Published estimates of the incidence of influenza in Texas in the winter of 1959-60 have been unreliable in the absence of culture and hemagglutination-inhibition studies.

The reported ratio of paralytic to non-paralytic polio is rising. There were 1180 paralytic to 1156 non-paralytic cases of polio reported in Texas for the first 48 weeks of 1954. Comparable figures were 350 + 354 in 1957, 380 + 180 in 1958 and 319 + 199 in 1959. ECHO and Cocksackie viruses were found frequently in the reported non-paralytic cases but rarely in reported paralytic cases.

During 1958 the Communicable Disease Division of the Texas State² Department of Health studied 530 cases of suspected polio. Polio virus was cultured from stools or nasopharyngeal specimens in 131, Cocksackie viruses in 61, and ECHO in 22. There were 21 confirmed arthropod-borne encephalitis cases in Texas for an unknown part of 1959.

In 1953 in a study of 854 cases of aseptic or nonbacterial meningitis the etiology was unknown in 75 per cent; mumps 12 per cent; lymphocytic choriomeningitis nine per cent; leptospirosis three per cent; and herpes simplex one per cent.³ In another study in 1955-56 it was found that Cox-

sackie, ECHO and polio viruses each accounted for approximately 15 per cent. During 1955-56 viral studies were made of 1407 patients with clinical manifestations of infectious disease of the central nervous system.⁴

On the basis of isolation of virus or serologic evidence of infection of 120 cases of aseptic meningitis four per cent were due to polio virus, 28 per cent to Cocksackie, nine per cent ECHO, two per cent herpes simplex. All of the above viruses were implicated in encephalitis and in paralytic polio.

On the basis of electroencephalographic tracings of 1298 children at the Municipal Hospital for Contagious Diseases in Chicago the common contagious diseases of childhood involve the cerebral cortex more frequently than is clinically recognized.⁵ These patients had measles, mumps, chickenpox, scarlet fever and rubella. Seventy had symptoms of encephalitis and had abnormal EEG tracings. Of the remainder there were 470 abnormal tracings, about 30 per cent.

Etiological Diagnosis

The Division of Laboratories, Texas State Department of Public Health, Austin, under Dr. J. V. Irons (Sc.D.), can be of considerable assistance in establishing an etiological diagnosis of non-bacterial infections of the central nervous system. It is a good idea to obtain 5-10 c.c. of blood under aseptic conditions, to avoid bacterial contamination with possible resulting hemolysis, and to refrigerate the separated serum. This may then be sent in with a second specimen 2-4 weeks later for appropriate serological examination.

Complement fixation tests are done for suspected typhus, Rocky Mountain spotted fever, rickettsialpox and Q fever; lympho-granuloma venereum-psittacosis group; adenovirus group; mumps; St. Louis, Western and Eastern encephalomyelitis; lymphocytic choriomeningitis; polio types I, II and III; leptospirosis; toxoplasmosis. Tests are done only for diseases suspected.

Virus recovery and identification tests are available for suspected small pox, herpes, polio, ECHO, Cocksackie and others. Serological tests are not practical for Cocksackie and ECHO because of the large number of viruses comprising

these groups. Fresh unpreserved stools should be sent by air or overnight by express on ice.

Spinal fluid should be obtained for recovery of Coxsackie or ECHO viruses. Mere presence of these viruses in the intestinal tract does not incriminate them. Their presence in the spinal fluid does. Polio viruses are not generally recovered from spinal fluid. Rabies constitutes a special problem. Greater use could probably be made by pathologists of the State Health Department services in viral studies on tissues obtained for biopsy or at autopsy.

There are about 50 arthropod borne viruses transmitted by mosquitoes, ticks, sand flies. Western equine of Group A and St. Louis of Group B are endemic in our area.

Virus Isolated

Coxsackie, New York, was the home of two boys suffering from paralytic polio whose stools supplied a virus isolated by Dalldorf and Sickles. There are now 24 members of the Coxsackie family. These are divided into 19 Group A types or strains and five Group B. When inoculated into suckling mice Group A Coxsackie viruses produce paralysis because of degeneration of skeletal muscle. Group B infected mice exhibit tremors, spasticity and spastic paralysis.

Coxsackie is the causative agent of epidemic myalgia or pleurodynia or Bornholm's disease or devil's grip, which may produce excruciating muscular pains in any region. When it involves the diaphragm recognition is simple. Coxsackie also produces herpangina. There are characteristic grayish-white papules or vesicles surrounded by erythema which may go on to ulcerate and may be seen on the anterior faucial pillars, palate, uvula, tonsils or tongue. Coxsackie viruses have produced fatal myocarditis in the newborn within the first eight or nine days of life. Coxsackie has been implicated in adult myocarditis and pericarditis.⁶

ECHO—enteric cytopathogenic human orphan—virus started out in 1952 in search of a disease. There are now 24 antigenically distinct types and diseases have been found for them. Sanford and Sulkin propose the term enterovirus disease because of the overlapping spectrum of clinical disorders which the polio, Coxsackie and ECHO viruses may produce.⁷ Horsfall and Rivers compare the enteroviruses in the following manner:⁸

Polio Viruses

1. Paralysis—complete to slight muscle weakness. 2. Aseptic meningitis. 3. Undifferentiated febrile illness, particularly during the summer.

Coxsackie, Group A

1. Herpangina. 2. Aseptic meningitis. 3. Undifferentiated febrile illness, particularly during summer. 4. Febrile illness with rash.

Coxsackie, Group B

1. Mild paralysis?—encephalitis. 2. Aseptic meningitis. 3. Undifferentiated febrile illness with pharyngitis. 4. Pleurodynia. 5. Myocarditis or encephalomyocarditis during neo-natal period and early childhood.

ECHO

1. Mild paralysis?—or encephalitis. 2. Aseptic meningitis. 3. Undifferentiated febrile illness. 4. Febrile illness with rash. 5. Summer diarrhea of infants and children.

A case of acute cerebellar ataxia in a five-year-old boy with recovery of ECHO virus from the spinal fluid has been reported recently.⁹

Wallgren set out these criteria for aseptic meningitis in 1925: (1) Acute onset with symptoms and signs of meningeal involvement; (2) cerebrospinal fluid changes of meningitis; (3) absence of bacteria; (4) relatively short benign course of illness; (5) absence of juxta-meningeal or systemic disease of which meningitis might be a secondary manifestation; and, (6) absence from the community of epidemic disease of which meningitis is a feature.

The last is not valid today. Normal spinal fluid sugar and a count generally not over a thousand with the predominant cell usually the lymphocyte, although polys may be the majority early, may be added.

The Infectious Disease Service of University Hospital of the Ohio State School of Medicine during the last two years has routinely submitted stool and spinal fluid specimens to the Ohio State Department of Health on all patients with aseptic meningitis.¹⁰ They recently reported 11 cases in which Coxsackie virus was isolated from six spinal fluids and ECHO in five. There was recovery of

virus in only five stools. They had previously reported 11 cases of aseptic meningitis due to leptospire.

As an example of the unexpected central nervous system effects of mumps, which is ordinarily considered an innocuous infection, unless it occurs in an adult male, there recently was reported two patients with sudden onset of coma.¹¹ In both instances the parotid glands were not enlarged, and the parents insisted both boys had had the mumps many years before. Mumps virus was recovered from the spinal fluid of both patients.

Worldwide Epidemics

Independent reviews recently appeared in the New England Journal of Medicine and The American Journal of Medicine advocating that a single or related group of causative agents was responsible for 22 curious, intriguing epidemics occurring worldwide from 1934 at Los Angeles County Hospital to 1958 at an Athens, Greece, hospital.¹²

Paresis was present in all outbreaks, but not in all individuals. Nurses and doctors have been most frequently involved. In addition to paresis other characteristics have been headache, pain of almost all parts of the body, prodromal sore throat, paresthesias, muscle cramp, depression, impaired mentation, vertigo, diplopia, photophobia, g-i symptoms, urinary retention, nuchal rigidity, low grade fever or none, and nystagmus. Muscle pains were often agonizing.

Paresis usually affected those parts most painful and tender. Paresthesias and hypesthesias usually occurred in limbs affected by paresis. Bizarre, shifting neurological findings frequently suggested hysteria. The acute phase lasted days to weeks; symptoms resolved slowly and were frequently punctuated by exacerbations. The most persistent and incapacitating symptoms were fatigability, malaise, headache, neck, back and extremity pain, paresis, depression, irritability, impairment of concentration, paresthesias, tremor and involuntary movements.

Debility was protracted. Average time lost from work in the Los Angeles outbreak was 3½ months; one-fourth lost over five months. Only 13 per cent of 39 followed at the end of six years after the Iceland outbreak considered themselves free of symptoms.

Sedimentation rate was rarely elevated. Pleocytosis and elevation of cerebrospinal fluid protein has been rare. Electroencephalograms were almost all normal. Most patients recovered completely in 1-2 months.

It is suggested that sporadic cases be diagnosed only when there are almost all the characteristic findings plus paresis or other objective evidence of neurological involvement. No etiological agent has yet been found. One author proposes that this disease entity, if such it is, be called Epidemic Neuromyasthenia. The other author proposes Benign Myalgic Encephalomyelitis.

Rabies

Rabies is a form of encephalitis caused by a virus which exists as a salivary gland infection in carnivorous animals, is usually transmitted to man by a dog, and is carried asymptotically by bats. One person in 10,000 receiving the Semple rabbit brain Pasteur treatment develops a sensitization encephalomyelitis; one in 35,000 will die of bulbar paralysis. Use of egg embryo virus vaccine avoids this danger. Post-infectious encephalomyelitis following measles and chicken pox and post-vaccinia encephalomyelitis after vaccinia inoculation are believed to be sensitization reactions.

Psittacosis-lymphogranuloma venereum particles, which are more closely related to rickettsias than to viruses, may produce a meningo-encephalitis.

The virus of lymphocytic choriomeningitis is 40-60 $m\mu$ in size, is transmitted to man by mouse excretions, produces early grippe-like symptoms and only rarely results in paralysis or death. Diagnosis is made by isolation of the virus from cerebrospinal fluid, neutralization or complement-fixation tests.

Meningo-encephalitis may be the initial or sole manifestation of mumps infection.

The virus of encephalomyocarditis shares with ECHO viruses the ability to hemagglutinate. A strain of this virus was isolated from the cerebrospinal fluid of a girl with Guillain-Barré type of polyneuritis. Heart involvement has been found only in animals. This virus is capable of causing paralysis, encephalitis and aseptic meningitis in humans.

Generalized salivary gland virus infection or cytomegalic inclusion disease virus produces intra-

cytoplasmic and intranuclear inclusion bodies. The disease is said to be generally fatal in young infants. Diagnosed disease in adults has been rare, although subclinical infection may be common.

There have been other cases of inclusion disease with cytoplasmic inclusion bodies, variable neurologic signs, mental deterioration and fatal termination in 2-6 months.

Infectious polyneuritis or Guillain-Barré disease, with protein-cell dissociation in the cerebrospinal fluid, remains of unknown etiology although thought to be due to a viral agent.

Hemorrhagic meningoencephalitis is reported to be a disease entity of viral etiology. Von Economo's encephalitis lethargica has not been reported in epidemic form since 1926. Reports of individual cases remain unverified, since no specific virus has been recovered.

Control and Therapy

Rickettsiae resemble gram negative bacteria, are able to metabolize independently in vitro, reproduce by binary fission only within living cells, and are inhibited by available drugs such as chloramphenicol and tetracyclines.

The largest of the viruses, the psittacosis-lymphogranuloma-trachoma group, stain with basic dyes, are visible with the ordinary microscope, filter with difficulty, are presumed to divide by binary fission, and produce disease treatable with sulfonamide derivatives and antibiotics.

No other human virus diseases are affected by available drugs. Primary atypical pneumonia is of possible but unproved viral etiology which may be an exception. Use of antibiotics in this illness has led to uncertain and contradictory conclusions.

Virus particles use the host cell energy systems for duplication of their ribose and deoxyribose nucleic acids and protein shells. In this parasitic relationship lies the probable explanation for failure of available drugs to influence viral infectious diseases.

Experimental anti-viral substances include acridines, pentamidine, stilbamidine; benzimidazoles which inhibit nucleic acid synthesis; K. pneumoniae poly-saccharide which inhibits mumps virus

multiplication in the egg embryo; helenine, a nucleoprotein derived from penicillium funiculosum.

Interferon, a protein obtained from virus production in tissue culture, somewhat smaller than antibody, offers tantalizing promise of viral inhibitory activity without injury to the host cells. The properdin system is of experimental interest in the mechanism of resistance to virus infection.

Active immunization is of the greatest practical importance in control of virus disease. Attenuated live virus vaccine is used for protection against yellow fever and smallpox. In polio immunization there remains the problem of increasing the effectiveness of parenteral vaccine. A disturbing incidence of paralytic and fatal polio in individuals who had received three or four injections of the commercial Salk vaccine occurred in Boston in 1959. The issue of killed parenteral versus live attenuated oral vaccine has not yet been settled.

Polyvalent killed influenza vaccine is 75-80 per cent protective up to several months although for a much longer period if suspended in Freund's mineral oil adjuvant.

There is experimental work in measles immunization with both measles and distemper viruses. Mumps immunization must be repeated annually. The adenovirus vaccine will have little importance, because the incidence of apparent adenovirus infection is low. Rabies can be controlled by vaccination of animals.

Modification or prevention of measles and infectious hepatitis by passive immunization with gamma globulin is definite. Of equivocal value is the use of gamma globulin in prevention of rubella in the first trimester of pregnancy and of mumps in man. If used the dosage should be 20-30 c.c.

Deaths in children on steroids who have developed chicken pox have been reported. But steroids are being used in encephalomyelitis. The balance is between decrease of edema and inflammation and the function of adrenocortical hormones in stress and interference with localizing and immune processes.

Virus infection involves admission to the body; collision with, adsorption to and penetration of the host cell; disintegration and a dormant state of the virus particle or multiplication of virus material and fragmentation of the host cell. The

mechanism of host cell susceptibility or resistance is unknown. Interference and synergism between different viruses have been demonstrated.

Conclusion

Although people want magic bullets for virus infections none are as yet available. Placebo injections are as effective as penicillin and carry no risk of serious anaphylactic reactions or producing resistant staph super-infections. Placebo infections are 50 per cent effective in lowering the incidence of common cold infections. Needed is a simple wide-spectrum laboratory procedure for diagnosis of virus infections, particularly of the central nervous system. A combined viral vaccine, requiring boosters no more often than every 3-5 years if killed and given parenterally or safe from mutation and interference if attenuated live and given orally, is the viral immunization objective. With protection against the 48 known types of ECHO and Coxsackie viruses the incidence of respiratory, intestinal, muscular and central nervous system infections would plummet.

610 University Towers
1900 North Oregon Street

BIBLIOGRAPHY

1. Brody, Jacob A., et al: Apparent and Inapparent Attack Rates for St. Louis Encephalitis in a Selected Population. *The N. Eng. J. of Med.* 261:644-646, Sept. 24, 1959.
 2. Irons, J. V. and Peavy, James E.: Poliomyelitis in Texas. *Texas State J. of Med.* 55:822-824, October 1959.
 3. Adair, C. V., Gould, R. L., and Smadel, J. E.: Aseptic Meningitis, a Disease of Diverse Etiology: Clinical and Etiologic Studies on 854 cases. *Ann. Int. Med.*, 39:675, 1953.
 4. Lennette, Edwin H. et al: Viral Disease of the Central Nervous System. *J.A.M.A.* 171:1456-1464, Nov. 14, 1959.
 5. Gibbs, Frederic A. et al: Electroencephalographic Abnormalities in "Uncomplicated" Childhood Disease. *J.A.M.A.* 171:1050-1055, 1959.
 6. Null, Capt. F. C., Jr. and Castle, C. H.: Adult Pericarditis and Myocarditis Due to Coxsackie Virus Group B. Type 5. *The N. Eng. J. of Med.* 261:937-942, Nov. 5, 1959.
 7. Sanford, Jay P. and Sulkin, S. Edward: The Clinical Spectrum of ECHO-Virus Infections. *The N. Eng. J. of Med.* 261:1113-1122, Nov. 26, 1959.
 8. Rivers, Thomas M. and Horsfall, Frank L., Jr.: *Viral and Rickettsial Infections of Man*. Third edition, 1959, J. B. Lippincott Co., Phila.
 9. McAllister, Robert M., and Hummeler, Klaus and Coriell, Lewis L.: Acute Cerebellar Ataxia. *The N. Eng. J. of Med.* 261: 1159-1162, Dec. 3, 1959.
 10. Saslaw, Samuel, Wooley, Charles F. and Anderson, George R.: Aseptic Meningitis Syndrome. *A.M.A. Archives of Int. Med.* 105:69-75, Jan. 1960.
 11. Overman, John R.: Sudden Coma Induced by Mumps Virus. *The Am. J. of Med.* 26:957-959, June 1959.
 12. Henderson, Donald A., and Shelokov, Alexis: Epidemic Neuro-myasthenia—Clinical Syndrome? *The N. Eng. J. of Med.* 260: 757-818, April 16, 1959.
- Acheson, E. D.: The Clinical Syndrome Variously Called Benign Myalgic Encephalomyelitis, Iceland Disease and Epidemic Neuromyasthenia. *The Am. J. of Med.* 26:569-595, April 1959.

Coming Meetings

Postgraduate Course in Pediatrics. The University of Colorado School of Medicine, Stanley Hotel, Estes Park, Colorado, August 21-25, 1961.

El Paso Branch, University of Texas Postgraduate School of Medicine, El Paso County Medical Society's Turner Home, 1301 Montana Avenue, El Paso, Sept. 10, 1961.

American Heart Association, 26th annual meeting, Shamrock Hilton Hotel, Houston, Sept. 15-17, 1961.

American Fracture Association, 22nd annual meeting, Georgetown University Medical Center, Washington, D.C., Sept. 16-23, 1961.

Western Association of Railway Surgeons, Annual Meeting, Holiday Hotel, Reno, Nev., Sept. 28-30, 1961.

Arizona Academy of General Practice, Annual Scientific Session, Ramada Inn, Tucson, Oct. 12-14, 1961.

Southwest Obstetrical & Gynecological Society, Eleventh Annual Meeting, Konakai Club, San Diego, Oct. 15-17, 1961.

Southwestern Medical Association, 43rd Annual Meetings, Tropicanna Hotel, Las Vegas, Nev., Oct. 19-21, 1961.

MEETINGS

Western Association of Railway Surgeons To Meet September 28-30 in Reno

The annual convention of the Western Association of Railway Surgeons will be held at the Holiday Hotel in Reno, Nevada September 28, 29 and 30. The social activities during this meeting will include a trip to Virginia City on Thursday afternoon, September 28th, and a trip to Squaw Valley on Friday afternoon, September 29th. The annual banquet will be held at the Holiday Hotel Friday evening.

There will be an address by Mr. Francis B. Lewis, Manager of Safety and Courtesy, Union Pacific Railroad. In addition our program will include the following papers:

The Management of Cystic Disease of the Breast

Ruth Fleming, M.D., Reno, Surgeon, Western Pacific Railroad.

Hazards of Transfusions

Maurice E. Leonard, M.D., Associate Professor of Clinical Medicine at the University of California and Senior Consulting Internist, Western Pacific Railroad.

Traumatic Rupture of the Diaphragm

Max Childress, M.D., Assistant Clinical Professor of Surgery at the University of California and Chief Consulting Thoracic Surgeon, Western Pacific Railroad.

Evaluation of the Patient with Acute Myocardial Infarction

John M. Read, M.D., Elko, Nevada.

Experience with Peripherovascular Disease at Southern Pacific General Hospital

Bradford Simmons, M.D., San Rafael, Calif., and

Charles J. Monahan, M.D., San Francisco

Panel Discussion: Bronchogenic Carcinoma

1. Clinical Diagnosis

H. Corwin Hinshaw, M.D., Clinical Professor of Medicine, Stanford University.

2. Bronchoscopic and Laboratory Diagnosis

Horton C. Hinshaw, M.D., San Francisco.

3. Surgical Treatment

Albert C. Daniels, M.D., Assistant Clinical Professor of Surgery, Stanford University.

There will also be a panel discussion on Cardiology with particular reference to the rehabilitation of cardiac cases. Participating in this will be Bernard Kaufman, Sr., M.D., Medical Superintendent, Southern Pacific General Hospital; John Read, M.D., Elko, Nevada; Emery R. Calovich, M.D., Kansas City, Missouri, Consultant Cardiologist, Union Pacific Railroad.

The annual William T. Cummins Memorial Lecture of the Western Association of Railway Surgeons will be given by Dr. Angelo Lapi, M.D., of Kansas City, Missouri. Dr. Lapi is Professorial Lecturer in Law Medicine at the Kansas City University School of Law. He is Assistant Professor of Clinical Pathology at the University of Kansas Medical Center, Pathologist at St. Mary's and St. Margaret's Hospitals in Kansas City and President of the Missouri Society of Pathologists. The exact title of his address has as yet not been determined but it will be concerned with the Medico-Legal aspects of Pathology in which Dr. Lapi has had vast experience.

Speakers Named for Southwestern Medical Association Meeting

The 43rd annual meeting of the Southwestern Medical Association will be held in the Tropicana Hotel, Las Vegas, Nevada, October 19-21, 1961.

Guest speakers for the meeting will be:

Orthopedics, Dr. Benjamin Fowler, Nashville.

Ophthalmology, Dr. Max Fine, Associate Clinical Professor of Ophthalmology, University of California Medical School.

Internal Medicine, Dr. William Parson, Charlottesville, Professor of Internal Medicine, University of Virginia School of Medicine.

Surgery, Dr. O. T. Claggett, Surgical Section, Mayo Clinic.

Obstetrics, Dr. Cary M. Dougherty, Clinical Associate Professor of Obstetrics and Gynecology, Louisiana State University School of Medicine.

Dermatology, Dr. Arthur Curtis, Professor of Dermatology, University of Michigan School of Medicine.

Registration fee will be \$25, which will include two round table discussion luncheons at the Tropicana. It will be an open meeting, and all doctors are invited.

Dr. Sherwood Burr of Tucson is President of the Association. Other officers are Dr. Harold J. Beck, Albuquerque, President-Elect; Dr. David Russek, Chihuahua City, Vice President; and Dr. Merle D. Thomas, El Paso, Secretary-Treasurer.

Serving You 365 Days A Year

SOUTHWEST BLOOD BANKS

JOHN B. ALSEVER, M.D., *General Medical Director*

Federally Licensed and Supervised by Physicians from the Southwest to Provide Blood and Plasma
of Highest Quality on a 24-Hour Basis.

ALBUQUERQUE	EL PASO	HARLINGEN	
HOUSTON	LUBBOCK	PHOENIX	SAN ANTONIO

The Clinic-Hospital of San Angelo

D. D. WALL, M.D.
Obstetrics & Gynecology
R. M. FINKS, M.D.
Pediatrics
M. D. KNIGHT, M.D.
Surgery
W. H. BRAUNS, M.D.
Internal Medicine

ROY E. MOON, M.D.
Obstetrics & Gynecology
CHAS. F. ENGELKING, M.D.
Ear, Nose and Throat
DALE W. HAYTER, M.D.
Ophthalmology

R. A. MORSE, M.D.
Internal Medicine
RALPH R. CHASE, M.D.
Pediatrics
TOM R. HUNTER, M.D.
Surgery
H. W. DISERENS, M.D.
Pediatrics


Consultant in Pathology: LLOYD R. HERSHBERGER, M.D.

Consultants in Radiology: JOHN E. BALLARD, M. D.; JOHN G. BOLEN, M.D.

224-234 W. BEAUREGARD AVE.

J. B. ADCOCK, Administrator

SAN ANGELO, TEXAS



in bacterial
tracheobronchitis

Panalba*
promptly
to gain precious
therapeutic hours

In the presence of bacterial infection, taking a culture to determine bacterial identity and sensitivity is desirable—but not always practical in terms of the time and facilities available.

A rational clinical alternative is to launch therapy at once with Panalba, the antibiotic that provides the best odds for success.

Panalba is effective (in vitro) against 30 common pathogens, including the ubiquitous staph. Use of Panalba *from the outset* (even pending laboratory results) can gain precious hours of effective antibiotic treatment.

Supplied: Capsules, each containing Panmycin* Phosphate (tetracycline phosphate complex), equivalent to 250 mg. tetracycline hydrochloride, and 125 mg. Albamycin,* as novobiocin sodium, in bottles of 16 and 100.

Usual Adult Dosage: 1 or 2 capsules 3 or 4 times a day.

Side Effects: Panmycin Phosphate has a very low order of toxicity comparable to that of the other tetracyclines and is well tolerated clinically. Side reactions to therapeutic use in patients are infrequent and consist principally of mild nausea and abdominal cramps.

Albamycin also has a relatively low order of toxicity. In a certain few patients, a yellow pigment has been found in the plasma. This pigment, apparently, a metabolic by-product of the drug, is not necessarily associated with abnormal liver function tests or liver enlargement.


Urticaria and maculopapular dermatitis, a few cases of leukopenia and agranulocytosis have been reported in patients treated with Albamycin. Most of these side effects usually disappear upon discontinuance of the drug.

Caution: Since the use of any antibiotic may result in overgrowth of nonsusceptible organisms, constant observation of the patient is essential. If new infections appear during therapy, appropriate measures should be taken.

Total and differential blood counts should be made routinely during prolonged administration of Albamycin. The possibility of liver damage should be considered if a yellow pigment, a metabolic by-product of Albamycin, appears in the plasma. Panalba should be discontinued if allergic reactions that are not readily controlled by antihistaminic agents develop.

*Trademark, Reg. U.S. Pat. Off.
The Upjohn Company
Kalamazoo, Michigan

Upjohn

Panalba  your broad-spectrum
antibiotic of first resort



Southwestern Physicians' Directory



SAUL B. APPEL, M.D.

Certified by the American Board of Internal Medicine

CARDIOVASCULAR DISEASES

Suite 10E EL PASO MEDICAL CENTER 1501 Arizona Ave.
KE 3-5201 El Paso, Texas

ARTESIA MEDICAL CENTER

Henry L. Wall, M.D., Suite A Phone:
General Practice SH 6-2311
Robert W. Harper, M.D., Suite B SH 6-2531
Surgery and Gynecology
Owen C. Taylor, Jr., M.D., Suite C SH 6-2521
General Practice
C. Pardue Bunch, M.D., Suite D SH 6-3321
General Practice
Gerald A. Slusser, M. D., Suite E SH 6-2441
Surgery
X-ray and Medical Laboratory SH 6-4200
Fourth and Washington Artesia, New Mexico

ANDREW M. BABEY, M. D.

Certified by the American Board of Internal Medicine

CARDIOVASCULAR DISEASES

250 West Court Avenue Jackson 4-4481 Las Cruces, N. M.

FRANK O. BARRETT ANESTHESIOLOGY ASSOCIATES

J. A. Shugart, M.D.
(Diplomate American Board of Anesthesiology)
Jack Walker, M.D., J. W. Redelfs, M.D., Jack Ellis, M.D.
B. F. Fehlman, M. D., C. G. Race, M.D.
— ANESTHESIOLOGY —

El Paso Medical Center KE 3-8431 1501 Arizona Ave.
El Paso, Texas

OTTO L. BENDHEIM, M. D.

DIPLOMATE AMERICAN BOARD OF PSYCHIATRY &
NEUROLOGY

5051 N. 34th Street CRestwood 7-7431 Phoenix, Arizona

RAYMOND J. BENNETT, M. D.

Diplomate of the American Board of Neurology and Psychiatry

PRACTICE LIMITED TO NEUROPSYCHIATRY

Suite 7A El Paso Medical Center 1501 Arizona Avenue
Phone KE 2-1177 El Paso, Texas

JACK A. BERNARD, M.D., F.A.C.P.

Diplomate American Board Internal Medicine

INTERNAL MEDICINE

CARDIOVASCULAR DISEASES

Suite 3C El Paso Medical Center 1501 Arizona Avenue
Phone KE 3-8151 El Paso, Texas

VICTOR M. BLANCO, M.D.

Diplomate of the American Board of Surgery

GENERAL AND CANCER SURGERY

205 University Towers Building
1900 N. Oregon St. KE 3-5519 El Paso, Texas

CLEMENT C. BOEHLER, M. D., F.A.C.S.
H. W. DEMAREST, M.D., F.A.C.S.

Diplomates American Board Obstetrics and Gynecology

Suite 8-A Medical Center 1501 Arizona Avenue
Phone KE 2-6591 El Paso, Texas

FREDERICK P. BORNSTEIN, M.D.

Certified by the American Board of Pathology
in Pathologic Anatomy and Forensic Pathology

102 University Towers Bldg.
1900 N. Oregon St. KE 2-3901 El Paso, Texas

LOUIS W. BRECK, M.D.

W. COMPERE BASOM, M.D.

MORTON H. LEONARD, M.D.

MARIO PALAFOX, M.D.

ZIGMUND W. KOSICKI, M.D.

ADRIAN L. GRASS, M.D.

The El Paso Orthopaedic Surgery Group

1220 N. Stanton St. Telephone KE 3-7465 El Paso, Texas

BASIL K. BYRNE, M.D., F.A.A.P.

IRVIN J. GOLDFARB, M.D., F.A.A.P.

Diplomates American Board of Pediatrics
PEDIATRICS

Suite 4A El Paso Medical Center 1501 Arizona Avenue
KE 3-8487 El Paso, Texas

ROBERT J. CARDWELL, M.D.

(Diplomate American Board of Obstetrics and Gynecology)

608 University Towers Building

1900 N. Oregon St. KE 3-7587 El Paso, Texas

ROBERT N. CAYLOR, M.D.

Practice Limited to Ophthalmology

508 University Towers Building
1900 N. Oregon St. KE 3-4909 El Paso, Texas



Southwestern Physicians' Directory



WILLIAM I. COLDWELL, M.D.

Certified by the American Board of Internal Medicine

INTERNAL MEDICINE

501 University Towers Building

1900 N. Oregon St. KE 2-2661 El Paso, Texas

BRANCH CRAIGE, M.D., F.A.C.P.

(Certified by American Board of Internal Medicine)

INTERNAL MEDICINE

Suite 5B El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-7121 El Paso, Texas

E. S. CROSSETT, M.D.

Diplomate American Board of Thoracic Surgery

GEORGE W. IWEN, M.D.
THORACIC SURGERY

Cardiovascular Surgery Broncho-Esophagology
Suite 11-D KE 3-8511 or KE 2-2474 1501 Arizona Ave.
El Paso Medical Center El Paso, Texas

WICKLIFFE R. CURTIS, M. D., F.A.C.S.

JAMES D. BOZZELL, M.D., F.A.C.S.

Diplomates American Board of Urology

PRACTICE LIMITED TO UROLOGY

Suite 3B El Paso Medical Center 1501 Arizona Avenue
Phone KE 3-1426 El Paso, Texas

RITA L. DON, M.D.

Allergy

102 University Towers Building

1900 N. Oregon St. KE 2-3901 El Paso, Texas

ANTONIO DOW, M.D., F.A.C.S.

(Diplomate of American Board of Surgery)

GENERAL SURGERY

205 University Towers Building

1900 N. Oregon St. KE 2-7305 El Paso, Texas

HAROLD D. DOW, M.D.
FREDERICK J. KOBERG, M.D.

General Practice — Surgery

Box 456
702 Hobbs Road Phone 3641 Seminole, Texas

JOHN A. EISENBEISS, M.D., F.A.C.S.
WILLIAM B. HELME, M.D.

Diplomates of the American Board of Neurological Surgery
NEUROSURGERY

926 E. McDowell Road AL 4-3151 Phoenix, Arizona

WARD EVANS, M.D., F.A.C.S.

(Diplomate American Board of Surgery)

SURGERY

608 University Towers Building

1900 N. Oregon St. KE 3-7587 El Paso, Texas

LESTER C. FEENER, M.D., F.A.C.P.

Diplomate American Board of Internal Medicine

INTERNAL MEDICINE

CARDIOVASCULAR DISEASES

404 Banner Bldg. KE 2-5771 El Paso, Texas

2021 N. Central Ave. AL 3-4131

DOUGLAS D. GAIN, M.D.

JOHN W. KENNEDY, M.D.

JAMES R. MATHESON, M.D.

FRANK TOLONE, M.D.

Diplomates of American Board of Radiology
X-RAY THERAPY and DIAGNOSIS
RADIUM THERAPY

Phoenix

Arizona

ALBERT A. GEMOETS, M.D.

Member American Academy of General Practice

GENERAL PRACTICE

3726 1/2 Alameda Ave. KE 3-7689 El Paso, Texas

H. M. GIBSON, M.D., F.A.C.S.

Certified by American Board of Urology

PRACTICE LIMITED TO UROLOGY

512 University Towers Building

1900 N. Oregon St. KE 2-8130 El Paso, Texas

L. A. GLADSTONE, M.D.

W. D. FEINBERG, M.D.

INTERNAL MEDICINE

Bldg. 14, Suite D 1501 Arizona Ave.
El Paso Medical Center KE 3-2508 El Paso, Texas

JAMES J. GORMAN, M.D., F.A.C.P.

Diplomate American Board of Internal Medicine

DIAGNOSIS — GASTROENTEROLOGY

701 First National Building KE 2-6221 El Paso, Texas

J. LEIGHTON GREEN, M.D., F.A.C.S.

GENERAL and GYNECOLOGICAL SURGERY

Suite 3A El Paso Medical Center 1501 Arizona Avenue
Phone KE 2-9790 El Paso, Texas



Southwestern Physicians' Directory



DRS. HART, BOVERIE, BLACK,
CLAYTON, GREEN & WHITE

PATHOLOGICAL AND CLINICAL LABORATORIES
X-RAY DIAGNOSIS AND THERAPY

Radioactive
Isotopes

Cobalt
Beam Therapy

Pathology

M. S. HART, M.D.
C. L. GREEN, M.D.

Diplomates American Board of Pathology

R. F. BOVERIE, M.D.
G. L. BLACK, M.D.
R. S. CLAYTON, M.D.
J. E. WHITE, M.D.

Diplomates American Board of Radiology

MELVIN A. LYONS, M.S.H.A.
Business Manager

El Paso Medical Center Medical Arts Building
1501 Arizona Ave., Suite 2A 415 E. Yandell Drive, Suite 105
KE 3-4478 KE 3-6926

EL PASO, TEXAS

SOL HEINEMANN, M.D., F.A.C.S.

Diplomate, American Board of Urology

UROLOGY

212 University Towers Bldg.
1900 N. Oregon St. LI 2-1539 El Paso, Texas

SOLOMON HELLER, M.D.

INTERNAL MEDICINE

Hematology—Endocrinology

505 University Towers Building
1900 N. Oregon St. KE 3-0406 El Paso, Texas

HERBERT E. HIPPS, M.D.

ORTHOPEDIC SURGERY

1612 Columbus Ave. 4-4701 Waco, Texas

RUSSELL HOLT, M.D.
B. LYNN GOODLOE, M.D.

GENERAL and GYNECOLOGICAL SURGERY

MEDICAL ARTS BUILDING

415 East Yandell Blvd. KE 3-3443 El Paso, Texas

RALPH H. HOMAN, M.D., F.A.C.P.

CARDIOLOGY

ROBERT B. HOMAN, JR., M.D., F.A.C.S.

DISEASES OF THE CHEST — THORACIC SURGERY

Suite 7D El Paso Medical Center 1501 Arizona Avenue
Phone KE 3-1409 El Paso, Texas

GEORGE W. HORTON, M.D.

PRACTICE LIMITED TO ORTHOPEDICS

513 West 4th Street FEderal 2-1271 Odessa, Texas

LOUIS G. JEKEL, M.D.

ROBERT H. SNAPP, M.D.

Diplomates American Board of Dermatology

DERMATOLOGY

550 W. Thomas Rd. CR 4-4901 Phoenix, Ariz

W. A. JONES, M.D.

Diplomate American Board of Neurological Surgery

K. ZOLFOGHARY, M.D.,
NEUROLOGICAL SURGERY

Suite 1C El Paso Medical Center 1501 Arizona Avenue
KE 2-7579, KE 3-9076 El Paso, Texas

G. H. Jordan, M.D., F.A.C.S. C. E. Webb, M.D., F.A.C.S.

DRS. JORDAN AND WEBB

Diplomates American Board of Surgery

GENERAL and GYNECOLOGICAL SURGERY

Suite 7B El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-1693 El Paso, Texas

LINDELL M. KINMAN, M.D.

Diplomate American Board of Urology

UROLOGY

300 West Alameda Phone MA 2-4111 Roswell, N. Mex.

M. NATHAN KLEBAN, M.D.

Certified by American Board of Internal Medicine

Internal Medicine

610 University Towers Building
1900 N. Oregon St. KE 2-7079 El Paso, Texas

ROYCE C. LEWIS, JR., M.D.

Diplomate American Board of Orthopedic Surgery

ORTHOPEDIC SURGERY and SURGERY OF THE HAND

1910 Knoxville St. PO 3-8281 Lubbock, Texas

GILBERT LANDIS, M.D., F.A.C.S.

Diplomate American Board of Obstetrics & Gynecology

OBSTETRICS, GYNECOLOGY
and GYNECOLOGICAL SURGERY

Suite 15-D KE 3-5023 1501 Arizona Ave.
El Paso Medical Center El Paso, Texas



Southwestern Physicians' Directory



JACK C. POSTLEWAITE, M.D.

Diplomate American Board of Internal Medicine

INTERNAL MEDICINE

Suite 5D 1501 Arizona Ave.
El Paso Medical Center KE 2-1385 El Paso, Texas

DONALD RATHBUN, M.D.

NEUROLOGY

and

Internal Medicine

Suite 4B KE 2-8778 1501 Arizona Ave.
El Paso Medical Center El Paso, Texas

VINCENT M. RAVEL, M.D.

Diplomate American Board of Radiology

Radiology — Radio-Isotopes

Cobalt⁶⁰ — Teletherapy

101 University Towers Bldg.
El Paso KE 2-3459 Texas

HERMAN RICE, M.D.

Practice Limited to General Surgery

El Paso Medical Center

Bldg. 4-B 1501 Arizona Ave.
Phone KE 3-8051 El Paso, Texas

RISSLER-WOLLMANN CLINIC

ROSS W. RISSLER, M.D., F.A.C.C.

(Certified by the American Board of Internal Medicine)

INTERNAL MEDICINE — CARDIOLOGY

WALTER W. WOLLMANN, M.D., F.A.C.S.

(Certified by the American Board of Surgery)

GENERAL SURGERY

2001 Grant Ave. KE 3-1601 El Paso, Texas

CECIL A. ROBINSON, M.D., F.A.C.S.

Diplomate American Board of Orthopaedic Surgery

Orthopaedic Surgery

111 No. Pine Street JU 6-2541 Kermit, Texas

S. PERRY ROGERS, M.D.

W. HUNTER VAUGHAN, M.D.

(Diplomates American Board of Orthopedic Surgery)

ORTHOPEDIC SURGERY

Suite 2B El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-4433 El Paso, Texas

WILLARD W. SCHUESSLER, M.D.

DONALD H. EWALT, M.D.

Diplomates of the American Board of Plastic Surgery
Plastic, Reconstructive Surgery and
Maxillo-facial Surgery

1501 Arizona Ave. Medical Center, Suite 4-C
El Paso, Texas

F. P. SCHUSTER, M.D.

S. A. SCHUSTER, M.D.

NEWTON F. WALKER, M.D.

BRADFORD HARDIE, M.D.

EYE, EAR, NOSE AND THROAT-BRONCHOSCOPY

First National Bldg. KE 2-1495 El Paso, Texas

O. J. SHAFFER, D.D.S., F.A.C.D.

(Diplomate American Board of Oral Surgery)

ORAL SURGERY

Suite 1D El Paso Medical Center 1501 Arizona Ave.
Phone KE 3-6742 El Paso, Texas

D. J. SIBLEY, JR., M.D.

GENERAL PRACTICE

Box 367 Phone 584 Ft. Stockton, Texas

EUGENE P. SIMMS, M.D.

— GENERAL PRACTICE —

Medical Arts Center

1213 Tenth Street HEmlock 7-1720 Alamogordo, N. M.

Leslie M. Smith, M.D. John C. Wilkinson, M.D.
H. D. Garrett, M.D.

DRS. SMITH, GARRETT & WILKINSON

Diplomates American Board of Dermatology

DISEASES OF THE SKIN

Suite 3D El Paso Medical Center 1501 Arizona Ave.
Phone KE 3-6172 El Paso, Texas

C. M. STANFILL, M.D.

Diplomate American Board of Otolaryngology

EAR, NOSE AND THROAT

Stapes Mobilization

507 University Towers Building

1900 N. Oregon St. KE 2-9449 El Paso, Texas

ROBERT HEALY STEVENS, B.S., M.D.

F.C.C.P.

ALLERGY — INTERNAL MEDICINE

1313 N. Second St. AL 4-8841 Phoenix, Arizona



Southwestern Physicians' Directory



A. L. LINDBERG, M.D.

Neoplastic Diseases

TUCSON TUMOR CLINIC

721 N. 4th Ave. MA 3-2531 Tucson, Arizona

CHARLES P. C. LOGSDON, M.D.

CARDIOLOGY

415 E. Yandell Blvd. KE 3-7916 El Paso, Texas

TRUETT L. MADDOX, D.D.S.

ORAL SURGERY

Suite 9A El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-3659 El Paso, Texas

WALTER B. MANTOOTH, JR., M.D.

JOE H. LEHMAN, M.D.

Dermatology and Cancer of the Skin

Suite 101 Lubbock
3801 19th Street SWift 9-4359 Texas

GEORGE B. MARKLE, IV, M.D.

Diplomate of the American Board of Surgery

GENERAL and GYNCOLOGICAL SURGERY

911 North Canal TU 5-5240 Carlsbad, New Mexico

MARSHALL CLINIC

I. J. Marshall, M.D.

General Surgery and Diagnosis

U. S. Marshall, M.D.

General Surgery and General Practice

E. A. Latimer, M.D.

General Practice

C. H. Fowler, M.D.

Internal Medicine and Cardiology

Thomas J. Jones, M.D.

Diseases of the Skin and Allergies

H. D. Johnson, Jr., D.D.S.

ROSWELL

NEW MEXICO

HOWARD J. H. MARSHALL, M.D.

Member American Academy of General Practice

GENERAL PRACTICE

Suite 8E 1501 Arizona Avenue
El Paso Medical Center KE 2-2431 El Paso, Texas

MEDICAL CENTER HOSPITAL AND CLINIC

Eugene McCarthy, M.D., FACS, FICS

Diplomate American Board of Obstetrics & Gynecology

Jeff H. Davis, M.D., AAGP; Joe J. Horn, M.D., AAGP

Howard Handcock, M.D., DABR

A. B. Cairns, M.D., FACCP; W. Ralph Thomas, M.D.

220 St. Louis St. CA 4-7426 Plainview, Texas

JAMES R. MORGAN, M.D.

Certified by American Board of Obstetrics & Gynecology

OBSTETRICS and GYNCOLOGY

Suite 3A El Paso Medical Center 1501 Arizona Ave.

KE 3-2265 El Paso, Texas

A. WILLIAM MULTHAUF, M.D., F.A.C.S.

UROLOGICAL DIAGNOSIS AND SURGERY

1315 First National Bldg. KE 3-8986 El Paso, Texas

WALLACE E. NISSEN, M.D., F.A.C.S.

W. W. KRIDELBAUGH, M.D., F.A.C.S.

GENERAL SURGERY

Medical Arts Square

801 Encino Place, Suite 35 3-2251 Albuquerque, N. M.

F. KEITH OEHLISCHLAGER, M.D.

WILLIAM M. BRANTLEY, M.D.

OBSTETRICS & GYNCOLOGY

1167 E. 42nd St. Sherwood Medical Center Phone
Suites 5 & 6 Odessa, Texas EM 6-4447

THE ORTHOPEDIC CLINIC

ORTHOPEDIC SURGERY

W. A. Bishop, Jr., M.D., F.A.C.S.*

Alvin L. Swenson, M.D., F.A.C.S.*; Ray Fife, M.D., F.A.C.S.*

Sidney L. Stovall, M.D., F.A.C.S.*

Thomas H. Taber, Jr., M.D., F.A.C.S.*; Robert A. Johnson, M.D.

*Diplomates of the American Board of Orthopedic Surgery

2620 N. Third St. CRestwood 7-6211 Phoenix, Arizona

JAMES M. OVENS, M.D.

F.A.C.S., F.I.C.S.

Diplomate American Board of Surgery

CANCER and TUMOR SURGERY

X-RAY and RADIUM THERAPY

333 W. Thomas Road 279-7301 Phoenix, Ariz.

ROBERT E. PARKINS, D.D.S.

GENERAL DENTISTRY

Bldg. I, Suite E 1501 Arizona Ave.
Phone KE 3-1245 El Paso Medical Center El Paso, Texas

in the wide middle region of pain

Percodan®

(Salts of Dihydrohydroxycodone and Homatropine, plus APC)

TABLETS

fills the gap
between
mild oral and
potent parenteral
analgesics¹⁻⁷

- acts in 5-15 minutes
- relief usually lasts 6 hours or longer
- toleration excellent... constipation rare
- sleep uninterrupted by pain

Each Percodan® Tablet contains 4.50 mg. dihydrohydroxycodone HCl, 0.38 mg. dihydrohydroxycodone terephthalate (warning: may be habit-forming), 0.38 mg. homatropine terephthalate, 224 mg. acetylsalicylic acid, 160 mg. acetophenetidin, and 32 mg. caffeine.

*for fast and
thorough
pain relief*

AVERAGE ADULT DOSE

1 tablet every 6 hours.
May be habit-forming.
Federal law permits
oral prescription.

Also Available For greater

flexibility in dosage —
Percodan®-Demi: The complete
Percodan formula, but with
only half the amount of salts of
dihydrohydroxycodone
and homatropine.

1. Blank, P., and Boas, H.: Improved analgesia for moderate pain, *Ann. West. Med. & Surg.* 6:376, 1952.
2. Bonica, J. J., et al.: The management of postpartum pain with dihydrohydroxycodone (Percodan): Evaluation with codeine and placebo, *West. J. Surg.* 65:84, 1957.
3. Cass, L. J., and Frederick, W. S.: A controlled study in pain relief, *M. Times* 84:1318, 1956.
4. Chasko, W. J.: Pain-free dental surgery: Postoperative extension of the pain-free state, *J. District of Columbia Dent. Soc.* 31:3, No. 5, 1956.
5. Cozen, L.: *Office Orthopedics*, ed. 2, Philadelphia, Lea & Febiger, 1953, pp. 120, 138, 145, 156, 234.
6. Nicolson, W. P., Jr., and Skandalakis, J. E.: Control of postoperative pain, *J.M.A. Georgia* 46:471, 1957.
7. Piper, C. E., and Nicklas, F. W.: Percodan for pain in industrial practice, *Indust. Med.* 23:510, 1954; abstracted, *Clin. Med.* 3:1008, 1956, *Current M. Digest* 22:135, No. 3, 1955.

Endo® ENDO LABORATORIES
Richmond Hill 18, New York

*U.S. Pats. 2,628,185 and 2,907,768



Southwestern Physicians' Directory



C. S. STONE, M.D., F.A.C.S.

EXpress 3-5323

301 East Cain Street

Hobbs, N.M.

JESSON L. STOWE, M.D.

GRAY E. CARPENTER, M.D.

GYNECOLOGY AND OBSTETRICS

2323 Montana Avenue

KE 2-4631

El Paso, Texas

WINSLOW P. STRATEMEYER, M.D.

Diplomate American Board of Neurological Surgery

NEUROLOGICAL SURGERY

Suite 11A

Office KE 2-9167

1501 Arizona Ave.

El Paso Medical Center

Home JU 4-0553

El Paso, Texas

M. D. THOMAS, M.D.

Diplomate American Board of Anesthesiology

Suite 12-D

KE 3-3745

1501 Arizona Ave.

El Paso, Texas

El Paso Medical Center

TURNER'S CLINICAL

& X-RAY LABORATORIES

GEORGE TURNER, M.D.

DELPHIN von BRIESEN, M.D.

HELEN W. ANDERSON, M.D.

MEDICAL CENTER

1501 Arizona Ave.
Building No. 6

Phone: KE 2-4689
El Paso, Texas

ROBERT F. THOMPSON, M.D., F.A.C.S.

(Certified by American Board of Urology)

UROLOGY

301 University Towers Building

1900 N. Oregon St.

KE 2-4321

El Paso, Texas

3500 Physicians Read

Southwestern Medicine

HARRY H. VARNER, M.D.

LEIGH E. WILCOX, M.D.

RUSSELL L. DETER, M.D.

GENERAL SURGERY

Suite 5E

El Paso Medical Center

1501 Arizona Ave.

Phone KE 2-6529

El Paso, Texas

WILLIAM H. WADE, M.D., F.A.C.S.

Diplomate American Board of Surgery

GENERAL SURGERY

CARDIOVASCULAR SURGERY

El Paso Medical Center, 15-B

1501 Arizona Ave.

KE 2-8111

El Paso, Texas

RICHARD P. WAGGONER, M.D.

M.S. (SURG.), F.A.C.S.

GENERAL SURGERY

504 N. Richardson St.

Phone 208

Roswell, N. M.

GRADY M. WALLACE, M.D., D.A.B.O.

Practice Limited to the Eye

3801 19th Street

SW 9-4343

Lubbock, Texas

Hotel Dieu, Sister's Hospital

Fully Approved by the
Joint Commission on Accreditation
of Hospitals.

Latest Facilities For All Services.
Emergency Service Around
the Clock.

EL PASO, TEXAS

Hotel Dieu School of Nursing

Fully approved by the
National Nursing Accrediting
Service.

Applicants May Apply
To
Sister Aloysius, Director

EL PASO, TEXAS

Hotel Dieu School of Medical Technology

Fully Approved by the American
Medical Association, American
Society of Clinical Pathologists,
and Registry of Medical Technologists.

EL PASO, TEXAS



Southwestern General Hospital

Accredited by the Joint Commission on Accreditation of Hospitals

Member Hospital:

American Hospital Association
Texas Hospital Association
Blue Cross of Texas

•

COTTON AVENUE AND ERIE STREET • EL PASO, TEXAS

OVERTON CLINIC

300 Hughes Building

PAMPA, TEXAS

M. C. Overton, Jr., M.D.
Surgery and Gynecology

E. S. Williams, M.D.
Pediatrics and Obstetrics

J. R. Donaldson, M.D.
Surgery

G. R. Hrdlicka, M.D.
Radiology

C. M. Lang, M.D.
Surgery

R. W. Moore, M.D.
Internal Medicine

DUTTON LABORATORIES

FREDERICK P. BORNSTEIN, M.D.
(Certified by American Board of Pathology)
Pathological Anatomy and Forensic Pathology

RITA L. DON, M.D.
(Associate Fellow, American College of Allergists)
Allergy and Clinical Pathology

JOHN B. FRERICHs, M.D.
(Certified by American Board of Pathology)
Pathological Anatomy and Clinical Pathology

J. A. HANCOCK, Ph.D.
Consultant in Chemistry

616 Mills Bldg.
102 University Towers

KE 2-3901
El Paso, Texas

Give Us A Trial On Your

TAYLOR BACK BRACE

Orders

- Send the following measurements: from level of shoulders to tip of sacrum; circumference of pelvis above trochanters; circumference of waist; height and weight.

CHRISTOPHER'S BRACE AND LIMB CO.

2231 Montana St.

KE 2-9690

EL PASO, TEXAS

UNIFORMS

Doctors • Nurses • Interns • Technicians

Poplin, Nylon, Dacron
White and Colors

SURE-FIT UNIFORM CO.

612 N. Oregon St.

KE 2-1374

El Paso, Texas

C. G. McDow and Son, Props.

Rio Grande Pharmacy

419-421 South Stanton St.

KE 2-4473

El Paso, Texas

Only at the Popular in El Paso . . .

KUPPENHEIMER SUITS

POPULAR DRY GOODS CO.



GUNNING & CASTEEL DRUG STORES

"There is no finer prescription service . . . anywhere"

14 Conveniently Located Stores

El Paso, Texas

TAYLOR-SIMPKINS, INC.


MEDICAL OXYGEN

2123 Texas St.

KE 3-0952

El Paso, Texas

Nights — Call LO 5-0359, or LO 5-3060



**MEDICAL CENTER
PHARMACY**
YOUR PROFESSIONAL PHARMACY
IN THE EL PASO MEDICAL CENTER

1501
ARIZONA AVE. PHONE KE 2-6968-69 EL PASO,
TEXAS

We Carry A Complete Line of

DIABETIC FOODS AND SUPPLIES

McKEE PRESCRIPTION PHARMACY

107 East San Antonio Ave., El Paso

Dial KE 2-2693

For Your Convenience

Use Our Handy Charge-A-Plate Service!

the white house

El Paso, Texas

RICHARD E. MARTIN

MARTIN MORTUARY

Dial KE 2-3691

710 N. Stanton St.

El Paso, Texas

HARDING AND ORR

Funeral Home

EL PASO, TEXAS

320 Montana Ave.

KE 3-1646

Kaster & Maxon

Funeral Home

El Paso, Texas

KE 2-3431



Front View — Enclosed Patio

Sandia Ranch Sanatorium, Inc.

6903 Edith N. E.

Diamond 4-1618

Albuquerque, New Mexico

Licensed by State Health Department as a Psychiatric Hospital of 68 Beds
For the Care and Treatment of Nervous or Mental Disorders

VARIOUS ACCEPTED FORMS OF THERAPY AVAILABLE

OCCUPATIONAL THERAPY AND OUTDOOR ACTIVITIES

CLINICAL LABORATORY AND ELECTROENCEPHALOGRAM

LIMITED FACILITIES FOR DOMICILIARY CARE

Favorable Year Round Climate — 20 Acres Landscaped Grounds

JOHN W. MYERS, M.D., Medical Director

ALAN JACOBSON, M.D., Psychiatrist

HENRY T. PENLEY, M.D., Psychiatrist

Southwestern Surgical Supply Company

Your Complete Source in The Southwest
For All
Ethical Medical Equipment
and Supplies

EL PASO

ALBUQUERQUE

PHOENIX

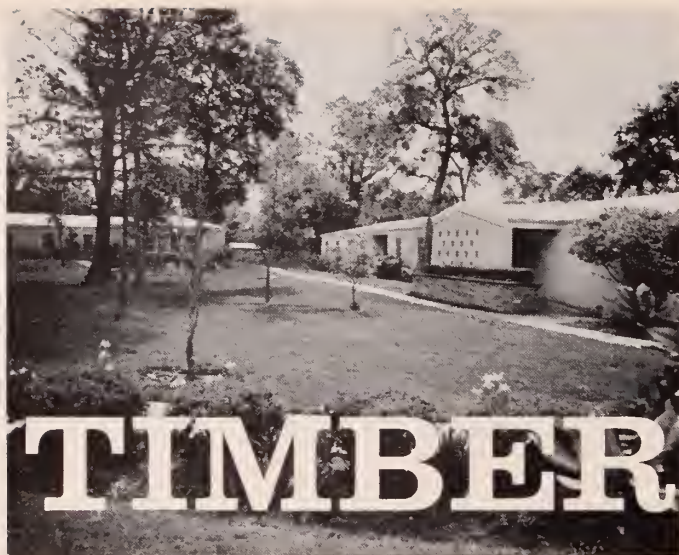
**Iron
And
Catalysts**

**NEW
IROMIN-G**

No Fish Oils
No Disagreeable
Odor

- Hematinic
- Therapeutic
Vitamins
- Essential
Minerals

Mission PHARMACAL CO.
SAN ANTONIO, TEXAS



PSYCHIATRIC HOSPITAL

DAY HOSPITAL

DEPARTMENT OF OUT PATIENT PSYCHIATRY

TIMBERLAWN FOUNDATION

For Education and Research in Psychiatry

Narcotic Cases Not Admitted

TIMBERLAWN

PSYCHIATRIC CENTER

PERRY C. TALKINGTON, M.D., Clinical Director
 CHARLES L. BLOSS, M.D., Medical Director
 Associate Psychiatrists
 HOWARD M. BURKETT, M.D.
 JAMES K. PEDEN, M.D.
 WARD G. DIXON, M.D.
 JERRY M. LEWIS, M.D.
 C. L. JACKSON, M.D.
 RALPH M. BARNETTE, JR., B. B. A., Business Manager

Clinical Psychology
 PHILIP ROOS, PH. D.
 DONALD BERTOCH, M. A.
 Social Work
 BILL M. TURNAGE, M.S.S.W.
 ROBERT L. COATES, M.S.S.W.
 GERALDINE SKINNER, B.S., O.T.R., Director of Occupational Therapy
 LOIS TIMMINS, PH. D., Director of Recreational Therapy
 FRANCES LUMPKIN, R.N., B.S., Director of Nurses

Evergreen 1-2121

Dallas 21, Texas

P. O. Box 1769

PROSTALL®

REDUCES PROSTATIC HYPERTROPHY

PROSTALL shrinks the enlarged prostate, without surgery, by local decongestion and de-edematization.

Each capsule contains 6 gr. of a biochemical combination of glycine (aminoacetic acid), alanine and glutamic acid.

ABSOLUTELY SAFE

No toxicity, no side-effects, no contraindications ever reported after use in thousands of cases.

RELIEVES PROSTATIC SYMPTOMS

PROSTALL relieved nocturia in 95% of cases, urgency in 81%, frequency in 73%, discomfort in 71%, and delayed micturition in 70%. Benefits improved by continued use.

CONTROLS PROSTATIC HYPERTROPHY

PROSTALL reduced the enlarged prostate in 92% of cases, to normal size in 33%, as determined by rectal palpation.

CONTROLLED CLINICAL INVESTIGATION

As reported in the March 1958 issue of The Journal of The Maine Medical Association and in the February 1959 issue of Southwestern Medicine, a controlled clinical investigation of PROSTALL Capsules showed effective results as indicated. Reprints on request.

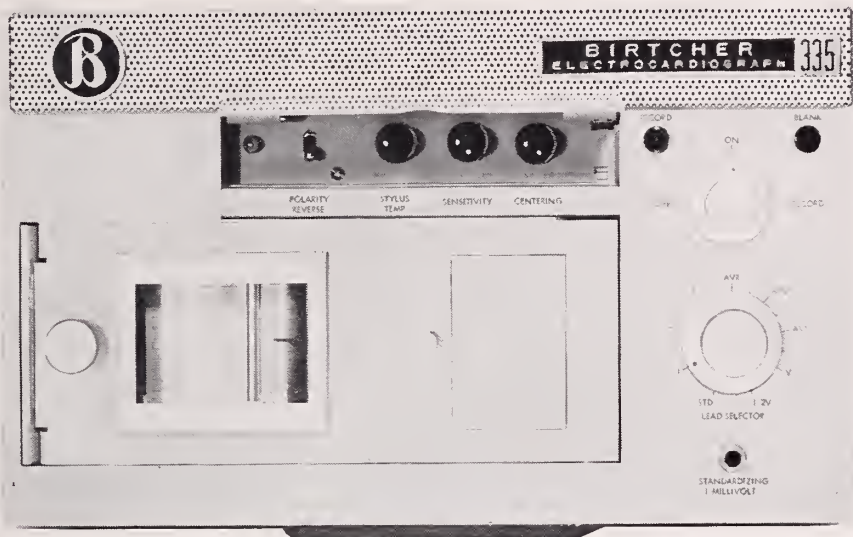
DOSAGE: 2 capsules t.i.d. after meals for 2 weeks, then 1 capsule t.i.d. for 2 months or longer.

AVAILABILITY: In bottles of 100 and 250 capsules. At all drugstores. If your druggist is out of stock, he can order Prostall from his wholesaler.

METABOLIC PRODUCTS CORP. • 37 HURLEY STREET, CAMBRIDGE, MASS.

announcing the all new transistorized
 COMPACT BIRTCHER ELECTROCARDIOGRAPH

THE ONLY COMPACT ECG OFFERING BIG MACHINE FEATURES



Designed to provide you with the utmost in portability with no sacrifice in trace size or accuracy; it fits snugly into any standard size week-end bag. A compact complement to the full size Birtcher 300-R ECG, the precision engineered Birtcher 335 Electrocardiograph is *Novistorized* and *transistorized* for maximum reliability, superlative performance and simplicity of operation. The product of years of research and testing, the new instrument offers a host of exclusive features.

STANDARD SIZE PAPER — STANDARD SIZE TRACE • 6-SECOND PAPER LOADING • SWITCH FOR POLARITY CHECK AND REVERSE • COLOR CODED BLANKING AND RECORDING INDICATOR LAMPS • OPERATING CONTROLS GROUPED FOR ONE HAND OPERATION • RECESSED AND COVERED ADJUSTMENT CONTROLS • MANUALLY CONTROLLED LEAD SEPARATION • LEVELTEMP® TUBULAR WRITING STYLUS • MONITORING WITHOUT RECORDING

FULL TWO YEAR GUARANTEE | THE PRICE... JUST \$595 | U.L. AND C.S.A. APPROVED

FOR A DEMONSTRATION AND ADDITIONAL INFORMATION — CONTACT YOUR LOCAL SUPPLIER

IN ALBUQUERQUE

Allied Medical Supply, Inc.
 1506 Central Avenue, S. E.
 Albuquerque, New Mexico
 CH 2-4795

IN TUCSON

Arizona Medical Supply Company
 1027 East Broadway
 Tucson, Arizona
 MA 3-7481

IN PHOENIX

Allied Medical Supply of Arizona, Inc.
 3633 West Orange Avenue
 Phoenix, Arizona
 YE 7-2831

IN LUBBOCK

Hunter Hospital Supply
 814 Avenue Q
 Lubbock, Texas
 PO 5-9426

IN AMARILLO

Hunter Hospital Supply
 617 West 7th Street
 Amarillo, Texas
 DR 3-3701

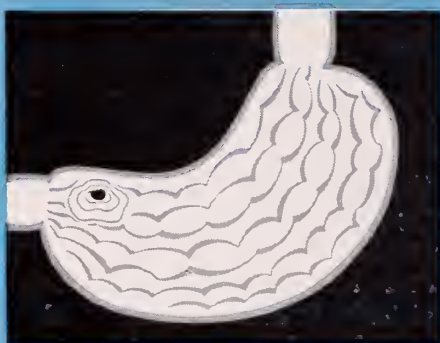
B **BIRTCHER**
 One quarter century
 of honest value —
 Sincerely Presented

Phone your ECGs — ^{T.M.}PHONATRACE is coming — watch for it.

*Patients like the refreshing taste
and dependability*

of

Titralac[®]*



for immediate
and prolonged relief
in peptic ulcer
and hyperacidity

Preferred for

- potency
- immediate relief
(within seconds)
- lasting effect
- milk-like action
- fresh mint flavor
- non-chalky smoothness
- freedom from effect on
intestinal function

TITRALAC[®] TABLETS 

May be chewed, dissolved in mouth, or swallowed with water. Each white, mint-flavored tablet contains glycine 0.18 Gm. and Ca carbonate 0.42 Gm. Bottles of 100 tablets.

TITRALAC[®] LIQUID 

Relief from a teaspoonful—not ounces or tablespoonfuls. Each 5cc. teaspoonful of white, mint-flavored liquid contains glycine 0.30 Gm. and Ca carbonate 0.70 Gm. Bottles of 12 fluid ounces.

*Patent No. 2429596

Janet Doe, Librarian
New York Academy of Medicine
2 East 103 Street
New York 29, New York



Northridge, California

Southwestern MEDICINE

Official Journal of The Southwestern Medical Association,
The Western Association of Railway Surgeons, The Southwest Obstetrical and Gynecological Society,
Southwestern Dermatological Society, Texas District One Medical Association,
The Southwestern New Mexico Medical Society, and El Paso County Medical Society

Speakers for

SOUTHWESTERN MEDICAL ASSOCIATION

43rd Annual Meeting

Oct. 19-21, Las Vegas, Nev.

O. T. Clagett, M.D., Head of Section, Division of Surgery, Mayo Clinic, and Professor of Surgery, Mayo Foundation Graduate School, University of Minnesota.

Arthur C. Curtis, M.D., Past President, American Academy of Dermatology and Syphilology, and Chairman of the Department of Dermatology, University of Michigan Medical Center.

Cary M. Dougherty, M.D., Clinical Associate Professor of Obstetrics and Gynecology, Louisiana State University School of Medicine.

Max Fine, M.D., Associate Clinical Professor of Ophthalmology, Stanford University School of Medicine and the University of California Medical School.

S. Benjamin Fowler, M.D., Associate Professor of Clinical Orthopaedic Surgery, Vanderbilt University Medical School.

William Parson, M.D., Professor of Internal Medicine and Chairman of the Department of Internal Medicine, University of Virginia School of Medicine.

Contents on Page 394

THE NEW YORK
ACADEMY OF
MEDICINE
SEP 20 1961
LIBRARY

September, 1961

VOL. 42, NO. 9



Founded 1916



RESTORE VITALITY...



to "the under-par child"*

NEW **Zentron**TM comprehensive liquid hematinic

- corrects iron deficiency
- restores healthy appetite
- helps promote normal growth

* underweight, easily fatigued, anorexic—due to mild anemia

Each 5-cc. teaspoonful provides:

Ferrous Sulfate (equivalent to 20 mg. of iron)	100	mg.
Thiamine Hydrochloride (Vitamin B ₁)	1	mg.
Riboflavin (Vitamin B ₂)	1	mg.
Pyridoxine Hydrochloride (Vitamin B ₆)	0.5	mg.
Vitamin B ₁₂ Crystalline	5	mcg.
Pantothenic Acid (as d-Panthenol)	1	mg.
Nicotinamide	5	mg.
Ascorbic Acid (Vitamin C)	35	mg.
Alcohol, 2 percent.		

Usual dosage:

Infants and children—1/2 to 1 teaspoonful (preferably at mealtime) one to three times daily.

Adults—1 to 2 teaspoonfuls (preferably at mealtime) three times daily.

ZentronTM (iron, vitamin B complex, and vitamin C, Lilly)



STRAIN

Essential in moving external masses, but potentially dangerous in moving the bowels, since vascular accidents may be precipitated in heart patients by excessive straining at stool. For cardiac patients with constipation, Metamucil adds a soft, bland bulk to the bowel contents to stimulate normal peristalsis and also to hold water within stools to keep them soft and easy to pass. Thus Metamucil, with an adequate water intake, induces natural elimination with a minimum of straining. Metamucil also promotes regularity through "smooth-age" in all types of constipation.

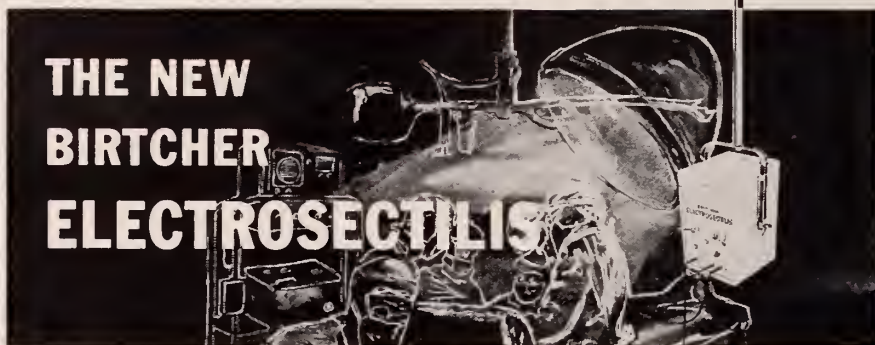
brand of psyllium hydrophilic mucilloid

Metamucil®

Available as Metamucil powder or as the new lemon-flavored Instant Mix Metamucil

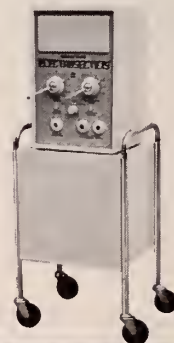
SEARLE

*Our proudest achievement in
One-Quarter Century of medical
electronic leadership*



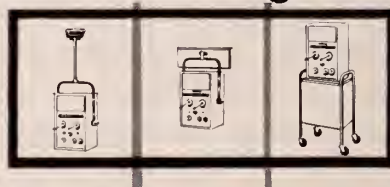
BRILLIANT IN PERFORMANCE with features such as a four tube separately rectified cutting circuit; new damped coagulation circuit for extraordinarily precise coagulation; settings for either circuit separately, with no chance for blend; setting for blend when desired; both visual and audible signals of current selection. ■ **SPACE SAVING COMPACTNESS** to bring new freedom of movement into the surgery. The new **ELECTROSECTILIS** takes up less than $\frac{1}{4}$ the space and is less than $\frac{1}{3}$ the weight of any other major electrosurgical unit! Yet, it provides more power, versatility and exquisite surgical performance than the largest and most expensive. ■ **THE LOWEST PRICE** of any major unit. All of the engineering, manufacturing and actual operating room experience gained in one-quarter century have combined to produce a unit which can be sold at a lower price than any other currently on the market, with such ruggedness and dependability it has a full **FIVE YEAR GUARANTEE.**

THE FIRST NEW ELECTROSURGICAL UNIT IN 15 YEARS



CHOICE OF SPACE-SAVING MOUNTINGS

The new **ELECTROSECTILIS** can be ceiling mounted with special new mount as shown, or can be used on the compact, mobile, locking sub-cabinet, or can be built-in wall to architect's specification.



FOR A DEMONSTRATION AND ADDITIONAL INFORMATION — CONTACT YOUR LOCAL SUPPLIER

IN ALBUQUERQUE

Allied Medical Supply, Inc.
1506 Central Avenue, S. E.
Albuquerque, New Mexico
CH 2-4795

IN TUCSON

Arizona Medical Supply Company
1027 East Broadway
Tucson, Arizona
MA 3-7481

IN PHOENIX

Allied Medical Supply of Arizona, Inc.
3633 West Orange Avenue
Phoenix, Arizona
YE 7-2831

IN LUBBOCK

Hunter Hospital Supply
814 Avenue Q
Lubbock, Texas
PO 5-9426

IN AMARILLO

Hunter Hospital Supply
617 West 7th Street
Amarillo, Texas
DR 3-3701

B BIRTCHER
*One quarter century
of honest value —
Sincerely Presented*

Phone your ECGs — ^{T.M.}PHONATRACE is coming — watch for it.



who
coughed?

WHENEVER COUGH THERAPY
IS INDICATED

HYCOMINE[®]

Syrup

THE COMPLETE Rx FOR COUGH CONTROL

*cough sedative / antihistamine
nasal decongestant / expectorant*

■ relieves cough and associated symptoms
in 15-20 minutes ■ effective for 6 hours or
longer ■ promotes expectoration ■ rarely
constipates ■ agreeably cherry-flavored

Each teaspoonful (5 cc.) of HYCOMINE[®] Syrup contains:
Hycodan[®]

Dihydrocodeinone Bitartrate	5 mg.	} 6.5 mg.
(Warning: May be habit-forming)		
Homatropine Methylbromide	1.5 mg.	

Pyrilamine Maleate	12.5 mg.
Phenylephrine Hydrochloride	10 mg.
Ammonium Chloride	60 mg.
Sodium Citrate	85 mg.

Average adult dose: One teaspoonful after meals and at
bedtime. May be habit-forming. Federal law permits oral
prescription.

Endo[®]

Literature on request

ENDO LABORATORIES

Richmond Hill 18, New York

Southwestern Medicine

*The U. S.-Mexico Regional Medical Journal Serving West
Texas, New Mexico, Arizona, Nevada and Northern Mexico*

Official Journal of

The Southwestern Medical Association, The Western Association of
Railway Surgeons, The Southwest Obstetrical and Gynecological
Society, The Southwestern Dermatological Society, Texas
District One Medical Association, The Southwestern
New Mexico Medical Society, and El Paso County
Medical Society

EDITOR Lester C. Feener, M.D.
404 Banner Building, El Paso, Texas

MANAGING EDITOR Louis W. Breck, M.D.
1220 North Stanton Street, El Paso, Texas

ASSOCIATE EDITORS
Branch Craige, M.D. Maurice P. Spearman, M.D.

ADVERTISING AND SUBSCRIPTION OFFICES

Mott, Reid & McFall
Publishers

310 N. Stanton St., El Paso, Texas

Publication Office

265 Texas St., Fort Worth, Texas

Subscription Price \$5.00 — Single copies 50c

Published Monthly

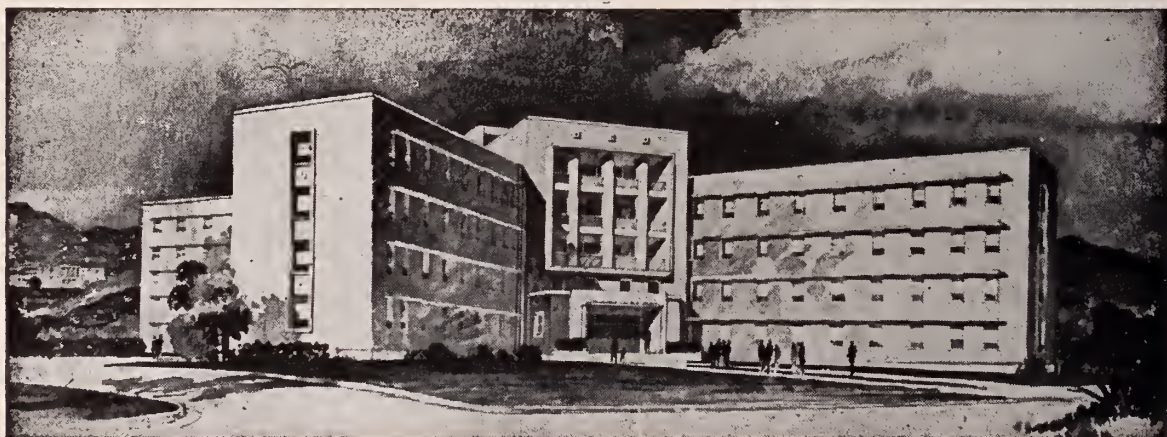
VOL. 42 SEPTEMBER, 1961 NO. 9

BOARD OF MANAGERS

Sherwood Burr, M.D.	Leland Evans, M.D.
Harold J. Beck, M.D.	Darwin Neubauer, M.D.
David Russek, M.D.	Carlos Tapia, M.D.
M. D. Thomas, M.D.	Louis W. Breck, M.D.
John Dettweiler, M.D.	H. D. Garrett, M.D.
Russell L. Deter, M.D.	Jack A. Bernard, M.D.
Louis G. Jekel, M.D.	Morton H. Leonard, M.D.
John F. Wanless, M.D.	

Gordon M. Marshall — National Advertising Representative
30 West Washington Street, Chicago, Ill., Dearborn 2-5148;
Eastern Office — John H. Hinse, Room 340, 15 West 44th Street
New York 36, Oxford 7-5262.

Second-class mail privileges authorized at Fort Worth, Texas
Postmaster: All undeliverable copies returnable under Form 3579
should be to Southwestern Medicine, 310 North Stanton Street,
El Paso, Texas.



Providence Memorial Hospital

The Modern Hospital of the Southwest

APPROVED BY THE JOINT COMMISSION ON ACCREDITATION OF HOSPITALS

COMPLETE DIAGNOSTIC and TREATMENT FACILITIES

ISOTOPE THERAPY AND STUDIES

COBALT 60 ROTATIONAL TELE THERAPY UNIT

OUTSTANDING CHEMISTRY LABORATORY

FACILITIES FOR PSYCHIATRIC THERAPY

ELECTROENCEPHALOGRAPHIC LABORATORY

2001 North Oregon Street

• El Paso, Texas

How to use *Trancopal*[®] Brand of chlormezanone for painful muscles



He needs his muscles working properly—
when they aren't, he needs
Trancopal

When a muscle is strained, it goes into a spasm that produces pain; this is followed by more spasm for splinting, and then more pain.

When you prescribe Trancopal, you break this vicious cycle and relieve the patient's discomfort. Trancopal will ease the spasm and consequently the pain, and its mild tranquilizing effect will make the patient less restless. You can then start him on purposeful exercise or physical therapy.

In addition to its usefulness in syndromes resulting from overstraining (such as low back pain or tennis elbow), Trancopal will relax the spasm and pain that are features of torticollis, bursitis, fibrositis, myositis, ankle sprain, osteoarthritis, rheumatoid arthritis, disc syndrome and postoperative muscle spasm. Trancopal is available in 200 mg. Caplets[®] (green colored, scored) and in 100 mg. Caplets (peach colored, scored), bottles of 100.

Dosage: Adults, 1 Caplet (200 mg.) three or four times daily; children (5 to 12 years), from 50 to 100 mg. three or four times daily.

Winthrop LABORATORIES
New York 18, N.Y.

1626M

WHAT DISTINGUISHES DEVEREUX

in its service to children who need remedial education? It furnishes —

1. Group living and learning experience with others of a similar aptitude and level of development.
2. The functioning of a multidisciplinary team with long experience in evaluating potential and in structuring programs in a residential setting unique in its wide range of homogeneous groupings.
3. A philosophy of optimum blending of traditional methods with the best of the new from the frontiers of research.
4. Established programs of diagnosis, treatment, research, and training soundly based on the wide spectrum of a multidisciplinary team of experts.

Serving the East Coast, Devereux Schools are located at Devon, Pennsylvania (Mr. Charles J. Fowler, Director of Admissions); serving the West Coast, Devereux Schools at Santa Barbara, California (Mr. Keith A. Seaton, Registrar); and serving the Southwest, Devereux Schools at Victoria, Texas (Mr. John M. Barclay, Director of Development). Your inquiries are welcomed.

THE DEVEREUX FOUNDATION

A nonprofit organization
Founded 1912
Devon, Pennsylvania
Santa Barbara, California
Victoria, Texas

SCHOOLS
COMMUNITIES
CAMPS
TRAINING
RESEARCH

HELENA T. DEVEREUX
Administrative Consultant

EDWARD L. FRENCH, Ph.D.
Director

Q
U
A
L
I
T
Y



P
A
P
E
R
S

EXAMINATION TABLE ROLLS

All Sizes Available
Smooth and Crepe Paper

PROFESSIONAL TOWELS

Best Quality Cellulose
White and Green

ASK YOUR SUPPLIER FOR TIDI.

TIDI PRODUCTS are always of best quality,
uniform, and economical in use.

Distributed throughout the USA

M'd. by TIDI PRODUCTS, Pomona, California

FOSFREE

The Answer to
the Problem
of Pregnancy

NAUSEA

ANEMIA

LEG CRAMPS

Small-Tasteless-Inexpensive

Mission PHARMACAL CO.
SAN ANTONIO, TEXAS

Maximal bending before medication



ROBAXIN Injectable administered



Dramatic improvement 15 minutes later



Factual Clinical Data: Male patient with marked spasm of right lumbar region found even slight bending extremely painful. Fifteen minutes after administration of 10 cc. of ROBAXIN Injectable, spasm had disappeared and patient could bend without pain. Photographs used with permission of patient.

References: 1. Carpenter, E. B.: Southern M.J. 51:627, 1958. 2. Forsyth, H. F.: J.A.M.A. 167:163, 1958. 3. Grisolia, A., and Thomson, J. E. M.: Clin. Orthopaedics 13:299, 1959. 4. Levanten, E. O., and Vaccarino, F. P.: Current Therap. Res. 2:497, 1960. 5. Lewis, W. B.: California Med. 90:26, 1959. 6. O'Doherty, D. S., and Shields, C. D.: J.A.M.A. 167:160, 1958. 7. Park, H. W.: J.A.M.A. 167:168, 1958. 8. Plumb, C. S.: Journal-Lancet 78:531, 1958. 9. Poppen, J. L., and Flanagan, M. E.: J.A.M.A. 171:298, 1959. 10. Schaubel, H. J.: Orthopedics 1:274, 1959.

In a matter of minutes

"excellent" relief^{4,10} in skeletal muscle spasm with



Robaxin®
INJECTABLE Methocarbamol Robins
 U.S. Pat. No. 2770649



- "... subjective relief of pain usually began within ten minutes..."¹⁰
- "... a valuable therapeutic agent for the treatment of acute disorders involving skeletal muscle spasm."⁴
- "... effective in producing immediate relaxation of paravertebral muscle spasm in patients who have undergone cervical and lumbar laminectomies."⁹

...for continuing relief without drowsiness

Robaxin®
TABLETS Methocarbamol Robins



Ten published studies with 474 patients show ROBAXIN Injectable and ROBAXIN Tablets beneficial in 89% of cases.¹⁻¹⁰

- "... a superior skeletal muscle relaxant in acute orthopedic conditions."¹
- "An excellent result, after methocarbamol administration, was obtained in all patients with acute skeletal muscle spasm."⁶
- "In no instance was there decrease in intensity of simple reflex responses or voluntary muscular strength."⁷

Supply: ROBAXIN Injectable, 1.0 Gm. methocarbamol in 10-cc. ampul. ROBAXIN Tablets, 0.5 Gm. (white, scored) in bottles of 50 and 500.

Also available, for oral use when severe pain accompanies skeletal muscle spasm: ROBAXISAL Tablets (Robaxin with Aspirin) in bottles of 100 and 500. ROBAXISAL-PH (Robaxin with Phenaphen®) in bottles of 100 and 500.

A. H. ROBINS CO., INC., RICHMOND 20, VIRGINIA

Making today's medicines with integrity... seeking tomorrow's with persistence

Contents

Southwestern Medical Association to Meet in Las Vegas, Nev., October 19-21 (Complete Program)	Page 400
Southwest OB-Gyn Society Will Meet October 29-31 in San Diego (Complete Program)	Page 403
Coming Meetings	Page 404
Clinical Evaluation of a New Topical Preparation in the Treatment of Otitis Externa	Page 405
By Joseph Charles Elia, M.D., Reno	
Anterior Pituitary Insufficiency with Diabetes Insipidus; A Case Report	Page 409
By Wm. L. Baird, Jr., Captain, MC, USA, Womack Army Hospital, Ft. Bragg, N. C.	
Renal Surgery in the Aged	Page 412
By C. Herbert Fredell, M.D., FACS; and John F. Currin, M.D., FACP, Flagstaff, Ariz.	
Medical Assistants to Meet in Reno	Page 416



Front View — Enclosed Patio

Sandia Ranch Sanatorium, Inc.

6903 Edith N. E.

Diamond 4-1618

Albuquerque, New Mexico

Licensed by State Health Department as a Psychiatric Hospital of 68 Beds
For the Care and Treatment of Nervous or Mental Disorders

VARIOUS ACCEPTED FORMS OF THERAPY AVAILABLE

OCCUPATIONAL THERAPY AND OUTDOOR ACTIVITIES

CLINICAL LABORATORY AND ELECTROENCEPHALOGRAM

LIMITED FACILITIES FOR DOMICILIARY CARE

Favorable Year Round Climate — 20 Acres Landscaped Grounds

JOHN W. MYERS, M.D., Medical Director

ALAN JACOBSON, M.D., Psychiatrist

HENRY T. PENLEY, M.D., Psychiatrist

**Where's
the arthritic
this
morning?**



**Thanks to
Medrol
Medules,
he woke up
comfortable
and he's
already
on the go.**

The first long-acting oral steroid, Medrol Medules gives the arthritic patient therapeutic action that continues through the night. In many cases, morning stiffness can become a thing of the past.

The slow, steady release of methylprednisolone often provides greater effectiveness, with less frequent administration and sometimes a reduced total daily dosage.

Many of your arthritic patients, too, can wake up comfortable on Medrol Medules.

Dosage: The following dosages are recommended in rheumatoid arthritis:

	<i>Initial</i>	<i>Maintenance</i>
Severe	12 to 16 mg.	6 to 12 mg.
Moderately severe	8 to 10 mg.	4 to 8 mg.
Moderate	6 to 8 mg.	2 to 6 mg.
Children	6 to 10 mg.	2 to 8 mg.

With Medrol Medules, it may be possible to reduce the total daily dose by $\frac{1}{2}$.

Indications and effects: Medrol benefits (anti-inflammatory, antiallergic, anti-rheumatic, antileukemic, antihemolytic) have been demonstrated in acute rheumatic carditis, rheumatoid arthritis, asthma, hay fever and allergic disorders, dermatoses, blood dyscrasias, and ocular inflammatory disease involving the posterior segment.

Precautions and contraindications: Because of Medrol's high therapeutic ratio, patients usually experience dramatic relief without developing such possible steroid side effects as gastrointestinal intolerance, weight gain or weight loss, edema, hypertension, acne, or emotional imbalance.

As in all corticotherapy, however, there are certain cautions to be observed. The presence of diabetes, osteoporosis, chronic psychotic reactions, predisposition to thrombophlebitis, hypertension, congestive heart failure, renal insufficiency, or active tuberculosis necessitates careful control in the use of steroids. Like all corticosteroids, Medrol is contraindicated in patients with arrested tuberculosis, peptic ulcer, acute psychoses, Cushing's syndrome, herpes simplex keratitis, vaccinia, or varicella.

Approximately 135
tiny "doses"
mean smoother steroid
therapy

Each capsule contains:
Medrol (methylprednisolone) 4 mg.
Supplied in bottles of 30 and 100.

**Medrol^{*}
Medules^{*}**

Upjohn

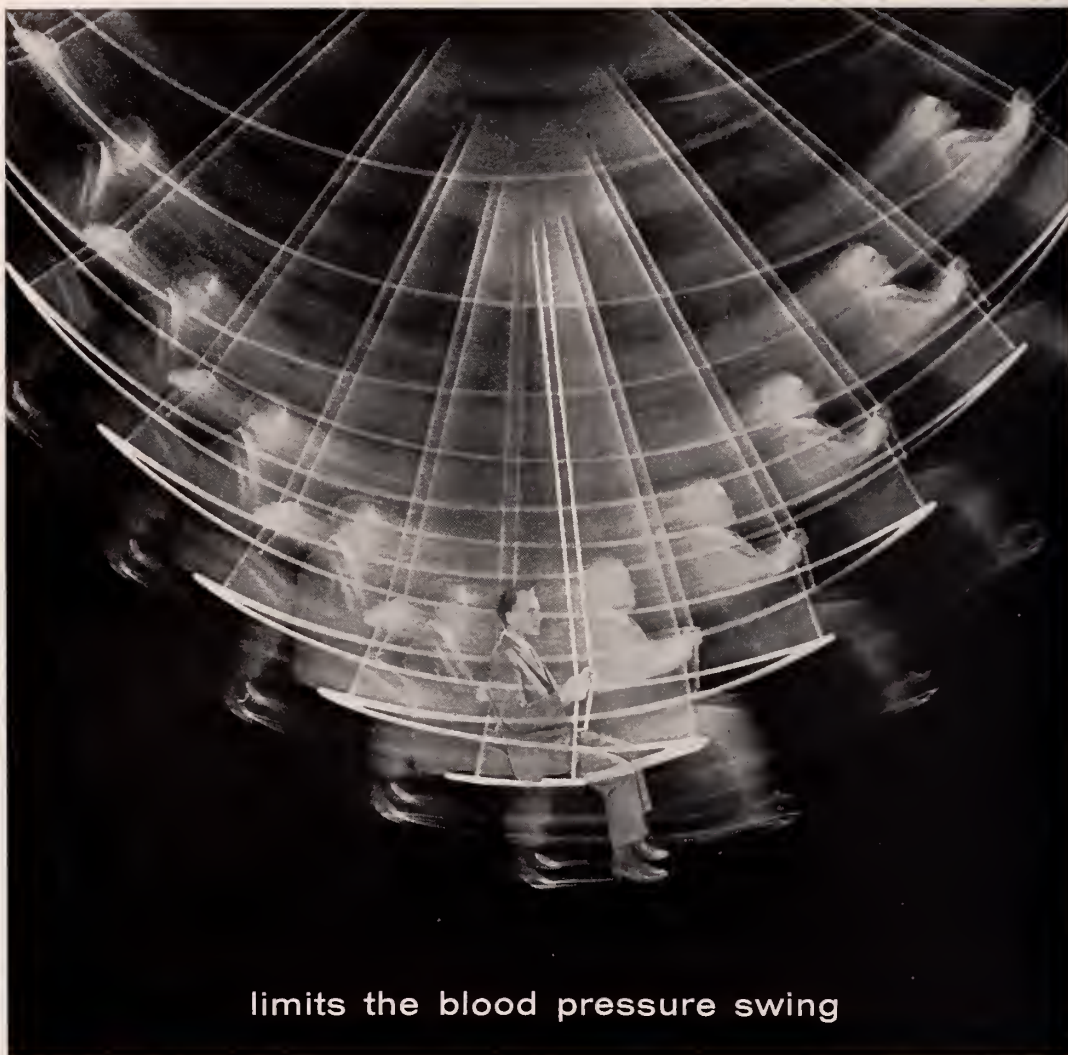
75th year

•TRADEMARK, REG. U.S. PAT. OFF.

COPYRIGHT 1961, THE UPJOHN COMPANY

JUNE, 1961

THE UPJOHN COMPANY, KALAMAZOO, MICHIGAN



Rautrax-N lowers high blood pressure gently, gradually . . . protects against sharp fluctuations in the normal pressure swing.

Rautrax-N offers all the advantages of Raudixin, Naturetin and potassium chloride in a single dosage form *plus*; *increased efficacy* — Combined action of Raudixin and Naturetin results in a potentiated antihypertensive effect greater than that produced by either drug alone. *increased safety* — Potentiated action permits lower dose of other antihypertensive agents, thus reducing severity of side effects. Protection against possible potassium depletion. *flexibility* — Interchangeable

with either Raudixin or Naturetin & K. *economy* — Maintenance dosage of only 1 or 2 tablets daily for most patients. *convenience* — Once-a-day maintenance dosage. Two potencies available.

Supply: Rautrax-N — capsule-shaped tablets providing 50 mg. Raudixin, 4 mg. Naturetin and 400 mg. potassium chloride. *Rautrax-N Modified* — capsule-shaped tablets providing 50 mg. Raudixin, 2 mg. Naturetin and 400 mg. potassium chloride.



Rautrax-N*

Squibb Standardized Whole Root Rauwolfia Serpentina (Raudixin) and Bendroflumethiazide (*Naturetin) with Potassium Chloride

For full information,
see your Squibb
Product Reference
or Product Brief.

SQUIBB
Squibb Quality
— the Priceless Ingredient



*RAUDIXIN®, *RAUTRAX® AND *NATURETIN® ARE SQUIBB TRADEMARKS.



For allergy
For itch

Everyday practice report:

Following initial clinical investigational work, Forhistan was sent to physicians throughout the country for evaluation as an antiallergic and antipruritic agent in everyday practice. Results in 6181 cases have now been analyzed. In 3419 cases in which a comparison was made, Forhistan was judged better than previous therapy in 7 out of 10 patients. Information about the investigational work done previously is being mailed to you separately and is also available on request.

SUPPLIED: *Tablets*, 1 mg. (pale orange, scored). *Lontabs*, 2.5 mg. (orange). *Syrup* (pink), containing 1 mg. Forhistan maleate per 5-ml. teaspoon. *Pediatric Drops* (pink), containing 0.5 mg. Forhistan maleate per 0.6 ml.

For complete information about Forhistan (including dosage, cautions, and side effects), see Physicians' Desk Reference or write CIBA, Summit, N. J.

FORHISTAL® maleate (dimethpyrindene maleate CIBA)
LONTABS® (long-acting tablets CIBA)

new
Forhistan®
rated better
than previous
therapy in
7 cases
out of 10

C I B A
SUMMIT, NEW JERSEY

2/2910MK-1

Southwestern Medical Association to Meet in Las Vegas, Nev.

October 19-21, 1961

The 43rd annual meeting of the Southwestern Medical Association will move to the sparkling setting of Las Vegas, Nevada, October 19-21, 1961, for a session featuring an excellent array of scientific speakers and an afternoon-free schedule permitting physicians to enjoy Las Vegas facilities to the fullest.

Headquarters will be at the Tropicana Hotel with the Folies Bergere, direct from Paris with 80 stars, and Shecky Greene, noted comedian.

The meeting will be an open one and all physicians are invited to attend, regardless of their previous affiliation with the Association. The registration fee of \$25 includes two luncheons.

Speakers will be:

Dr. O. T. Clagett, Head of Section, Division of Surgery at the Mayo Clinic and Professor of Surgery at the Mayo Foundation Graduate School, University of Minnesota.

Dr. Arthur C. Curtis, Past President of the American Academy of Dermatology and Syphilology, and Chairman of the Department of Dermatology, University of Michigan Medical Center.

Dr. Cary M. Dougherty, Clinical Associate Professor of Obstetrics and Gynecology at the Louisiana State University School of Medicine.

Dr. Max Fine, Associate Clinical Professor of Ophthalmology at the Stanford University School of Medicine and the University of California Medical School.

Dr. S. Benjamin Fowler, Associate Professor of Clinical Orthopaedic Surgery at the Vanderbilt University Medical School.

Dr. William Parson, Professor of Internal Medicine and Chairman of the Department of Internal Medicine at the University of Virginia School of Medicine.

SCIENTIFIC PROGRAM

Wednesday, October 18

3:00-5:00 p.m. Registration

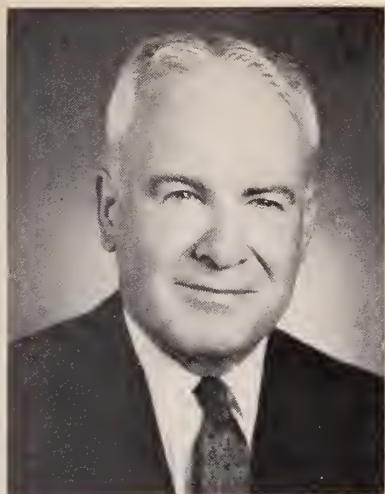
Thursday, October 19

Moderator: Louis W. Breck, M.D., El Paso

8:30 a.m. Registration

9:30 a.m. Call to order by Sherwood Burr, M.D., President, Southwestern Medical Association
Address of Welcome by The Honorable Oran K. Gragson, Mayor of Las Vegas

9:45 a.m. Management of Overweight Patient
William Parson, M.D.



Dr. Clagett



Dr. Curtis



Dr. Dougherty



Dr. Fowler



Dr. Fine



Dr. Parson

- 10:15 a.m. Diagnosis and Management of
Common Dermatological Lesions
Arthur Curtis, M.D.
- 10:45 a.m. Coffee—Visit Exhibits
- 11:15 a.m. Place of External Version in
Management of Breech Presentation
Cary M. Dougherty, M.D.
- 11:45 a.m. Fracture about the Wrist
Benjamin Fowler, M.D.
- 12:30 p.m. Luncheon
- 1:00 p.m. Round Table Discussion and Business
Meeting
Presiding: Sherwood Burr, M.D.

Friday, October 20

Moderator: Russell L. Deter, M.D., El Paso

- 9:30 a.m. Considerations of Non-malignant
Lesions of the Breast
O. Theron Clagett, M.D.
- 10:00 a.m. Common Neoplasms of Skin
Arthur Curtis, M.D.
- 10:30 a.m. Coffee—Visit Exhibits
- 11:00 a.m. Diagnosis and Management of
Adrenal Diseases
William Parson, M.D.
- 11:30 a.m. General Information Concerning
Recent Advances in Ophthalmology
Max Fine, M.D.
- 12:30 p.m. Luncheon
- 1:00 p.m. Round Table Discussion
Moderator: Harold J. Beck, M.D.,
Albuquerque, President-Elect,
Southwestern Medical Association

Saturday, October 21

Moderator: Harold J. Beck, M.D.

- 9:30 a.m. Criteria for Diagnosis of Carcinoma
in situ of Cervix
Cary M. Dougherty, M.D.
- 10:00 a.m. The Ocular Care of the Pre-School
Child
Max Fine, M.D.
- 10:30 a.m. Coffee—Visit Exhibits
- 11:00 a.m. Surgical Treatment of Rheumatoid
Arthritis of Hand
S. Benjamin Fowler, M.D.
- 11:30 a.m. Dysphagia and Its Treatment
O. Theron Clagett, M.D.

Social Activities Thursday, October 19

- 10:00 a.m. Tour of Las Vegas
- 2:00 p.m. Golf Round Robin
Tropicana
(choose your own partners)

Friday, October 20

- 9:00 a.m. Ladies' Golf Tournament
- 1:00 p.m. Golf Tournament
Tropicana
- 7:00 p.m. Cocktails
Gourmet Bar, Tropicana
- 8:00 p.m. President's Banquet
"Folies Bergere"

Dr. Sherwood Burr of Tucson is president of the Association. Other officers are: Dr. Harold T. Beck, Albuquerque, president-elect; Dr. David Russek, Chihuahua City, vice-president; and Dr. Merle D. Thomas, El Paso, secretary-treasurer.

Dr. Frank A. Shallenberger, Jr., Tucson, is general chairman for the meeting. Serving with Dr. Shallenberger are the following committee members: Dr. Ross Magee, Tucson, program chairman; Dr. E. S. Crossett, El Paso, exhibits and arrangements; Dr. Phillip G. Derickson, Tucson, orthopaedics; Dr. George Fraser, Tucson, obstetrics and gynecology; Dr. Louis G. Jekel, Phoenix, dermatology; Dr. James P. Calkins, Tucson, ophthalmology; Dr. Russell L. Deter, El Paso, medicine and surgery; Dr. W. G. Morrow, Jr., El Paso, entertainment; and Dr. Grant Lund, Tucson, golf tournament.

Exhibits

Abbott Laboratories
Association of American Physicians and Surgeons
Barnes-Hind Pasma Co.
Encyclopedia Britannica
Great Books of the Western World
Hyland Laboratories
Eli Lilly and Company
Owen Laboratories, Dallas
Roche Laboratories
Sandoz Pharmaceuticals
Southwestern Surgical Supply Co., El Paso
Tobacco Industry Research Committee
U. S. Vitamin & Pharmaceutical Corp.

Southwest OB-Gyn Society Will Meet

October 29-31 in San Diego

The eleventh annual meeting of the Southwest Obstetrical and Gynecological Society will be held in San Diego October 29, 30, and 31, 1961, with headquarters at the Konakai Club.

Dr. Ralph A. Reis, Professor of Obstetrics and Gynecology at Northwestern University, again will be the presiding agitator at the luncheon meetings.

Guest speakers will be:

Dr. Isadore Dyer, New Orleans, Professor of Obstetrics and Gynecology at Tulane University School of Medicine; Dr. Robert E. L. Nesbitt, Jr., Professor and Chairman of the Department of Obstetrics and Gynecology, State University of New York Upstate Medical Center at Syracuse; and Dr. Buford Word, Birmingham, Professor of Obstetrics and Gynecology at the Medical College of Alabama.

Dr. John F. Wanless of San Diego is president of the Society. Other officers are: Dr. Zeph B. Campbell, Phoenix, president-elect; Dr. Raymond J. Jennett, Phoenix, vice-president; Dr. Charles T. Franklin, La Mesa, California, secretary; and Dr. Francis L. Rook, San Diego, treasurer.

The complete program follows:

PROGRAM

Sunday, October 29

- 1:00 p.m. Registration, Main Lobby
- 3:00 p.m. Council Meeting, Beachcomber Room
- 5:30 p.m. Cocktails, Patio Room
Courtesy, San Diego Gynecological Society

7:30 p.m. Luau, Lanai Room

Monday, October 30

- 8:00 a.m. Registration
- 8:15 a.m. Meeting of Nominating Committee
- 9:00 a.m. General Session, Kamehameha Room
Call to order and introduction of guest speakers by John F. Wanless, M.D., San Diego, President, Southwest Obstetrical and Gynecological Society
- 9:15 a.m. Address
Dr. William Rust, San Diego, President, California Western University
- 9:40 a.m. Intermission
Coffee and refreshments available in Hospitality Room
Scientific Program

Morning Session

Presiding: Zeph Campbell, M.D., Phoenix

- 10:00 a.m. Some Unusual Indications for Caesarean Section
Isadore Dyer, M.D.
- 10:45 a.m. Prevention of Abortion: Use of Cytohormonal Diagnosis
Robert E. L. Nesbitt, Jr., M.D.
- 11:45 a.m. Business Meeting, Kamehameha Room
Presiding: John F. Wanless, M.D.

12:30 p.m. Luncheon and Round Table
Main Dining Room
Presiding Agitator: Ralph Reis,
M.D.
Molesting Moderators: Celso Stapp,
M.D., El Paso; and Basil W. Maloney,
Sr., M.D., Lemon Grove, Calif.

Afternoon Session

Presiding: Clement Boehler, M.D., El Paso
2:30 p.m. Ectopic Pregnancy
Buford Word, M.D.
3:15 p.m. Conception Can Be Fun
Isadore Dyer, M.D.
(Wives of members and guests
are cordially invited to attend
this paper)
5:30 p.m. Society Cocktail Party
Main Lounge
8:00 p.m. Annual Banquet
Main Dining Room

Tuesday, October 31

Morning Session

Presiding: Raymond J. Jennett, M.D., Phoenix
9:00 a.m. Complications of Hysterectomy
Buford Word, M.D.
9:45 a.m. Experimental Abruptio-placenta
Robert E. L. Nesbitt, Jr., M.D.
10:30 a.m. Interimission
Coffee and refreshments
available in Hospitality Room
11:15 a.m. Some Observations Concerning Ad-
nexal Disease
Isadore Dyer, M.D.
12:30 p.m. Luncheon and Round Table
Presiding: Ralph Reis, M.D.
Assistants: Charles Newcomb,
M.D., Tucson; and Walter Ballard,
M.D., San Diego

Coming Meetings

American Fracture Association, 22nd annual
meeting, Georgetown University Medical Center,
Washington, D.C., Sept. 16-23, 1961.

Western Association of Railway Surgeons, An-
nual Meeting, Holiday Hotel, Reno, Nev., Sept.
28-30, 1961

Arizona Academy of General Practice, Annual
Scientific Session, Ramada Inn, Tucson, Oct.
12-14, 1961.

The University of Texas M. D. Anderson
Hospital and Tumor Institute, Sixth Annual Clin-
ical Conference, Cancer of the Genito-Urinary
Tract, Texas Medical Center, Houston, Oct. 20-
21, 1961.

Southwest Obstetrical & Gynecological Society,
Eleventh Annual Meeting, Konakai Club, San
Diego, Oct. 29-31, 1961

Southwestern Medical Association, 43rd Annual
Meeting, Tropicana Hotel, Las Vegas, Nev.,
Oct. 19-21, 1961.

Clinical Evaluation of a New Topical Preparation In the Treatment of Otitis Externa

JOSEPH CHARLES ELIA, M.D., *Reno*

In the past, many physicians have referred to any dermatitis of the external ear canal as otitis externa. This diagnosis has been misleading and has produced "stereotyped treatment with indifferent therapeutic results."¹ Several articles have reported the fact that diagnosis of otitis externa has come to include a variety of ear conditions.^{1,2,3}

Lawson² points out that diagnostic confusion in external otitis is "apparently compounded by the ready blending of infectious and noninfectious dermatitis." Actually, infection, trauma, or local dermatological causes may all be responsible for dermatitis of the external ear canal.

Overlapping symptoms also impede the diagnosis. Many of the symptoms commonly present in otitis externa, such as pain, pruritus, etc., may occur in a variety of other otic infections and only add to diagnostic and therapeutic difficulties.

McLaurin³ and Gill⁴ have recognized the great variety of etiological agents responsible for external otitis. According to Gill, the term otitis externa includes inflammatory conditions of the external ear canal as well as of the pinna. The condition may be due to trauma, heat and cold effects, chemical or drug stimuli, allergic reactions, or infection. The latter is the most common cause of otitis externa and is caused by bacteria or fungi.^{5,6}

Anatomy and functional peculiarities of the external ear canal also contribute to the incidence of external otitis.^{3,7} The ear canal, an epithelium-lined cul-de-sac, is always moist and widely exposed to external infection. The secretion from the regional glands, cerumen, favors growth of certain microorganisms even under sterile conditions. If trauma and alteration of the pH also enter the picture, infection will develop even more readily.

Traumatic objects, such as hairpins and clips, may break the skin when they are introduced into the ear; since they are not sterile, they may elicit infection.

Predisposition to infection is often caused by a change in the pH value of the ear canal.³ When a normally acid bactericidal state changes to an abnormally alkaline one—and if the skin has been broken—an environment is established that may favor growth of bacteria and fungi. According to Fabricant,⁸ effectiveness of a therapeutic agent depends on its ability to produce a state of acidity which will hinder the multiplication of microorganisms.

Thus, a topical medication combining antimicrobial and anti-inflammatory properties is needed for optimal therapeutic success in external otitis. Such a remedy is available on prescription under the trade name Otobione.^{R*}

Each cubic centimeter of the liquid preparation contains 5 mg. prednisolone acetate, 3.5 mg. neomycin (as sulfate), and 50 mg. sodium propionate.

*Supplied by Dr. D. L. Long, White Laboratories, Inc., Kenilworth, N. J.

The pH is buffered to approximately 6.2, to conform with the slightly acid reaction of the normal external ear canal.

Specific Function

Each component of the preparation performs a specific function. Prednisolone, an anti-inflammatory agent, is known to be effective in the topical treatment of various dermatoses.⁹ The local activity of neomycin, an antibacterial agent, is also well established. Its "unusually wide antibacterial range, including practically all of the bacterial organisms which are encountered in skin infections" indicates its superiority in the treatment of accessible pyogenic infections.¹⁰

Sodium propionate, a highly effective antifungal as well as antimicrobial agent, is recommended for topical use in mycotic and bacterial infections of the skin, ear, and eyes;¹¹ the lack of tissue irritation and sensitization from such local treatment is emphasized by Theodore¹¹ and others.¹²

When the complementary action of the two antimicrobial components is combined with the anti-inflammatory and anti-pruritic action of prednisolone, an effective agent against otitis externa is obtained. Several investigators¹³ have observed "good" response to Otobione in 87 per cent of a composite series of 67 patients with ear infections. Clinical studies presented in this paper also confirm the efficacy of this medication.

Procedure

The preparation was administered as sole or adjunctive medication to a series of patients suffering from otitis externa.

Clinical Material

Ninety patients are included in this study. Ages ranged from one to 81 years. Table 1 summarizes the presenting symptoms. As can be seen pain and itch were the predominant presenting symptoms. Obviously, many individuals presented two or more symptoms simultaneously. Prior to treatment with Otobione these symptoms had been present for from three days to 16 years.

Many of the patients had had previous treatment, some only self-medication such as olive oil, alcohol, vaseline, etc.

Since associated allergy was observed in about half of the cases, the clinical series was divided

TABLE I

PRESENTING SYMPTOMS OF PATIENTS TREATED FOR EXTERNAL OTITIS

Pain	56
Itch	48
Weeping	10
Furunculosis	14
Swelling	17
Perforation	6
Associated Otitis Media	1
Associated Chronic Mastoiditis	2
	<hr/> 154*

*Representing 90 patients

into two groups: The non-allergic (or allergy-free) group comprising 46 patients, (19 male and 27 female) and the group with associated allergy consisting of 44 patients (9 male and 35 female).

Treatment

The recommended dose of 3-5 drops, instilled into the affected ear (T.I.D. or Q.I.D.), was used as long as necessary. All other medications were given adjunctively in oral form: Additional steroid was given to patients with an increased inflammation; sulfonamide was administered in cases where there was an extreme degree of cellulitis, furunculosis, otitis media, or chronic mastoiditis; antihistamine was given to most of the patients with associated allergy. Tables II and III summarize the type of medication used and duration of treatment, respectively.

Of the 46 allergy-free patients, 31 were given Otobione alone, one received additional steroid adjunctively, and 14 were treated with adjunctive sulfonamide. Treatment was continued for one to 14 days in the majority of patients, and in only seven cases was it necessary to continue therapy for more than 28 days. Of these latter seven, two had associated perforations and one had associated mastoiditis.

TABLE II

SUMMARY OF THERAPY USED IN ALL CASES

(Medication other than Otobione
was administered orally)

	Allergy Free Patients	Patients with Associated Allergy	Total
Otobione only	31	7	38
Otobione + Steroid	1	2	3
Otobione + Sulfonamide	14	6	20
Otobione + Antihistamines	0	24	24
Otobione + Antihistamines + Sulfonamide	0	5	5
TOTALS	46	44	90

TABLE III

DURATION OF TREATMENT IN PATIENTS WITH ASSOCIATED ALLERGY
AS COMPARED TO THE NON-ALLERGIC INDIVIDUAL

	DAYS OF TREATMENT				
	1 - 7	8 - 14	15 - 21	22 - 28	28+
Non-Allergic	15	16	5	3	7
Associated Allergy	8	11	10	5	10
TOTALS	23	27	15	8	17

Of the 44 patients with associated allergy, seven were given Otobione alone, two received additional steroid adjunctively, six were treated with adjunctive sulfonamide, 24 with adjunctive antihistamine, and five received both antihistamine and sulfonamide adjunctively.

The majority required treatment for one to 21 days. Ten patients were treated for more than 28 days. Fifty per cent of this latter group presented symptoms for two years or longer.

Results

Overall Clinical Response

The effect of the treatment was designated as good if no return of symptoms was noted for one full month; fair (improved) if symptoms reappeared in less than one month, but were re-

lieved with further treatment; poor (not improved) if no relief of symptoms was noted and alternate therapy had to be instituted. Table IV shows that a good response was obtained in 60 patients and a fair result was noted in 17 cases. Relief was therefore afforded to eighty-six per cent of the entire group.

TABLE IV

OVERALL CLINICAL RESPONSE

	GOOD	IMPROVED	NOT IMPROVED
Allergy Free	31	7	8
With Allergy	29	10	5
TOTALS	60	17	13

In comparing results of the two groups (Table IV), one observes that response was good in 31 allergy-free and in 29 associated allergy patients. Results were fair in seven allergy-free and in 10 associated allergy patients. Response was poor in eight allergy-free and in five associated allergy patients.

Thus, while required treatment for patients with associated allergy was somewhat longer (Table III), overall response to treatment was about the same in both groups. Generally speaking, however, those cases that had had a secondary tympanic membrane perforation, over an extended period of time, required longer treatment.

Bacteriological Findings

Bacteriological testing was performed on 37 patients, selected at random. Clinical response according to pathogenic organism is described in Table V.

TABLE V

CLINICAL RESPONSE ACCORDING TO PATHOGENIC ORGANISM

	NUMBER	GOOD	FAIR	POOR
<i>Staphylococcus Aureus</i>	18	18	0	0
<i>Pseudomonas aeruginosa</i>	14	6	5	3
<i>Aspergillus niger</i>	5	1	0	4
TOTALS	37	25	5	7

Staphylococcus aureus was isolated from 18 cultures. Good response to treatment was obtained in all 18 cases. *Pseudomonas aeruginosa* was isolated from 14 cultures; good therapeutic response was noted in six, fair in five and poor in three cases. *Aspergillus niger* was isolated from five cultures; good therapeutic response was observed in one, and a poor response in four cases.

One can see from the above data that *staphylococcus aureus* was the most frequently isolated organism as well as the most responsive to treatment. *Aspergillus niger*, on the other hand, was isolated only in a few instances and proved to be quite resistant to the treatment.

Tolerance of Medication

No reactions were noted to this preparation. None of the patients were irritated or made worse by its use.

Comment

In treating otitis externa, it is necessary to take into account other factors such as allergic problems, or any other co-existing conditions such as chronic mastoiditis or chronic otitis.

One notes from the above results that associated allergy tends to slow down the treatment. Consequently, in order to achieve a good therapeutic effect, the physician must be aware of the existence of an associated allergy, and accordingly administer appropriate therapy. Only when the allergy, too, is being symptomatically controlled will the medication against otitis externa be effective.

In many so-called resistant cases, it is the allergic reaction that often hinders therapeutic progress. In such an instance, the physician may attribute failure of response to the preparation he has been using and therefore change the course of treatment—only to find the same thing true with another compound.

Thus, if proper therapy is given adjunctively to patients with suspected allergy, treatment of external otitis with Otobione is quite effective and the results are gratifying.

Summary

(1) Etiology of otitis externa is discussed, and therapeutic as well as diagnostic difficulties of the disease are emphasized. A new medication, and anti-inflammatory and antimicrobial properties, is described.

(2) In a series of 90 patients with otitis externa, 44 of whom had an associated allergy, Otobione was prescribed as sole or adjunctive therapy. Most of the allergic patients were also given an antihistamine; those patients that had a higher degree of infection or inflammation received adjunctive treatment with sulfonamide or additional steroid, respectively.

(3) Of the 90 cases, 60 showed good, 17 fair and 13 poor response to treatment. Bacteriological cultures of 37 patients revealed *staphylococcus* as the most frequently isolated organism, and the most responsive to treatment. *Aspergillus* was isolated in just a few cases, and proved quite resistant to treatment.

(4) Overall response to the treatment was as good in allergy-free as in associated allergy patients. However, treatment lasted longer in the latter group. The point is made that the physician treating otitis externa should be aware of the possibility of co-existing allergy in the cases which appear resistant. With proper use of adjunctive antihistamine, Otobione treatment of otitis externa can be as effective in the allergic as it is in the non-allergic patient.

275 Hill Street

References

1. Perry, E. T.: A Practical Approach to External Otitis. *J.A.M.A.* 163: 161-164 (Jan. 19) 1957.
2. Lawson, G. W.: Diffuse Otitis Externa and Its Effective Treatment. *Postgrad. Med.* 22: 501-503 (Nov.) 1957.
3. McLaurin, J. W.: Otitis Externa: Facts of the Matter. *J.A.M.A.* 154: 207-213 (Jan. 16) 1954.
4. Gill, W. D.: Otitis Externa. *Ann. Otol. Rhin. & Laryng.* 51: 370-377 (June) 1942.
5. Singer, D. E. et al.: Otitis Externa: Bacteriological and Mycological Studies. *Ann. Otol. Rhin. & Laryng.* 61: 318-330, 1952.
6. Syverton, J. T., Hess, W. R. and Krafchuk, J.: Otitis Externa, Clinical Observations and Microbiologic Flora. *Arch. Otolaryng.* 43: 213-225 (March) 1946.
7. Cline, H. L.: External Otitis: A Specific Disease Entity. *J. Iowa Med. Soc.* 42: 446-452 (Sept.) 1952.
8. Fabricant, N. D.: The pH Factor in Treatment of Otitis Externa. *A.M.A. Arch. Otolaryng.* 65: 11-12 (Jan.) 1957.
9. Zimmerman, E. H.: Therapeutic Assay of Topically Applied Prednisolone Alcohol in Selected Dermatoses. *J.A.M.A.* 162: 1379-1381 (Dec. 8) 1956.
10. Livingood, C. S. et al.: Pyogenic Infections Treated with Neomycin. *J.A.M.A.* 148: 334-339 (Feb. 2) 1952.
11. Theodore, F. H.: Use of Sodium Propionate in External Infections of the Eyes. *J.A.M.A.* 143: 226-228 (May 20) 1950.
12. Peck, S. M., and Russ, W. R.: Propionate-Caprylate Mixtures in the Treatment of Dermatomycoses. *Arch. Dermat. & Syph.* 56: 601-613 (Nov.) 1947.
13. Rigual, R., Daly, J. F., McStravog, L., and Yesner, B.: Personal Communications to Medical Department, White Laboratories, Inc., Kenilworth, N. J.

Anterior Pituitary Insufficiency With Diabetes Insipidus

A Case Report

WM. L. BAIRD, JR., Captain, MC, USA, Womack Army Hospital, Ft. Bragg, N.C.

Diabetes insipidus and anterior pituitary insufficiency occurring simultaneously are rarely reported. In reviewing the literature only seven reported cases were found.^{1, 2, 3, 4, 5.}

Case Report

A 42 year-old white male began having vague frontal headaches in July, 1955. In August he was hospitalized with double vision, loss of coordination, mental confusion, and slurred speech. A tentative diagnosis of multiple sclerosis was made, and he received daily intravenous histamine injections. In September, 1955, he was first admitted to William Beaumont Army Hospital with lethargy. Spinal fluid examination revealed 557 cells with 95 per cent neutrophils; culture was negative. The highest specific gravity on six urinalyses was 1.005; however, the diagnosis of diabetes insipidus was not considered.

From July to September he lost 30 pounds. He was transferred to a VA Hospital with a diagnosis of viral encephalitis, type undetermined, and psychosis with organic brain disease. In December, 1955, he was discharged, much improved. At this time he had weakness, a tremendous thirst, and loss of libido. In January, 1956, he had pneumonia and was admitted to another hospital. ECG revealed some non-specific T wave changes. He was discharged as myocardial degeneration associated with some undiagnosed primary disease and pneumonia.

From February, 1956, until January, 1957, he did not consult a physician. During this period of time he noticed an intolerance to cold. It became necessary to shave only once weekly, and his pubic, axillary, and chest hair almost disappeared. He had mild, generalized muscular aching, and became so weak that ambulation for more than thirty minutes was difficult. He had to sleep at least 15 hours daily.

His appetite was good, and there were no episodes of nausea, vomiting or syncope. Polydipsia became so marked that he had to sleep with a

pitcher of water near his bed. He had nocturia of four to five times nightly. In January, 1957, he accidentally broke the water pitcher and cut his foot. In the emergency room the intern suturing the laceration was impressed with the polyuria and polydipsia and admitted him for evaluation.

On physical examination he appeared to be chronically ill with weakness, slow speech and some slurring of words. The vital signs were: T 98 degrees, P 88, R 20, BP 80/60, height 68 inches, weight 178 pounds. There was some confusion, but no disorientation. The skin was pale, dry and scaly, with subnormal pigmentation. There appeared to be subcutaneous edema, but pitting could not be elicited.

His scalp hair was sparse and coarse. There was almost complete loss of pubic, axillary and chest hair. (Fig. 1.) The eyebrows were thin laterally and the beard was absent. He was puffy about the eyes. The teeth were carious, brown-stained and with increased spacing. The tongue was large. The thyroid gland was not palpable. Both testes were small, measuring approximately 2 x 1 cm. There was generalized muscular weakness and some pain on motion of the large joints. There was marked depression of the deep tendon reflexes. His gait was slow with a wide base.

The specific gravity of urine ranged between 1.001 and 1.003 on repeated examinations. Fifteen minute urine volumes prior to and during the Hickey Hare test were from 90 to 130 cc. After 0.1 unit of pitressin intravenously the 15 minute urine volume dropped to 30 cc. His urine output was approximately eight liters daily prior to pitressin therapy and 1500 to 3000 cc after therapy, with a specific gravity of 1.027 being reached.

Multiple basal metabolic rate determinations varied from minus 18 per cent to minus 2 per cent. Serum cholesterol was 185 mg per cent and protein bound iodine 2.3 and 3.4 mcg per cent. Electrocardiogram revealed marked T wave depression in leads III, AVL and the left precordial leads. Free acid was present on gastric analysis. The 24-



Figure 1

Appearance of patient prior to therapy, showing the absence of body hair and the myxedematous facies.

hour urine examinations for 17-ketosteroids, 11 oxycorticoids, and 17 hydroxycorticoids were considered unreliable.

On glucose tolerance test his fasting blood sugar was 119 mg per cent; one-half hour blood sugar 200 mg per cent; one-hour sugar 194 mg per cent; two-hour sugar 207 mg per cent; four-hour sugar 100 mg per cent. The serum sodium was 151 mEq/L, serum potassium 5 mEq/L, and total serum protein 7.0 gm per cent with albumin 4.6 gm per cent. Electroencephalogram revealed absence of occipital alpha wave, a general depression of all electrical activity, and a superimposed fast rate affecting the frontal and right temporal areas.

Gonadotropin assays were less than 50 Mu/L. Testicular biopsy specimen revealed collapse of the seminiferous tubules, the lining cells were predominantly that of Sertoli's cells, and the interstitial tissue was replaced by dense fibrocollagenous connective tissue with absence of Leydig cells. Lumbar puncture, skull films, visual fields, and chest x-ray were normal. Hemoglobin was 12 gm per cent.

There were no significant changes during hospitalization prior to treatment. Extra sodium chloride was added to his diet. Pitressin tannate in oil, one cc every other day, controlled his diabetes insipidus. He gained such relief from the polyuria and polydipsia that he would shuffle along and in his slow speech say that he felt "wonderful". He began to gain weight and reached a maximum of 210 pounds. His blood pressure varied from 95/60 to 110/70.

Target gland replacement therapy was begun with prednisone 20 mg daily. Several weeks later he began to have visual and auditory hallucinations requiring closed ward treatment. The prednisone was discontinued and in 19 days he had become orientated again. After a two-month period he was given prednisone 2.5 mg, thyroid extract 16 mg, and testosterone linquets 10 mg daily. The added sodium chloride was discontinued. The thyroid dosage was gradually increased to a daily dose of 250 mg in five months. The prednisone was increased to five mg in the third month and to 10 mg in the fifth month. After six months of treatment his speech became more normal.

He progressed from needing 15 hours of sleep to eight hours daily and applied for a job. His skin



Figure 2

Appearance of patient six months after therapy was started, showing partial return of body hair and improvement in the appearance of his face.

became smooth and moist. The puffiness around his eyes and the "thick" skin disappeared. Axillary, pubic and chest hair returned, and he had to shave at least every other day. (Fig. 2.) On hot days there was noticeable sweating. Deep tendon reflexes became active. Muscular strength improved considerably, and gait became more normal.

Occasionally excessive polyuria and polydipsia returned, but was controlled with pitressin. There have been occasional erections with fleeting return of libido, but no sexual intercourse. Protein bound iodine rose to 7 mcg per cent and hemoglobin rose to 14 gm per cent. The electrocardiogram and electroencephalogram became normal. He remained obese. Observation since treatment covered a period of 11 months.

Discussion

The initial episode of the patient's illness apparently was an aseptic encephalitis. Viral studies were not done to get a specific diagnosis. The pituitary failure closely followed and was assumed to be secondary to encephalitis. Post-encephalitic pituitary failure is rare but does occur.⁶ Tumor was highly unlikely. However, two patients were diagnosed as idiopathic diabetes insipidus for two and five years until the tumor became recognizable clinically.⁷ The electrocardiographic changes which resulted in a diagnosis of degenerative myocardial disease were probably secondary to myxedema.⁸

On a follow-up visit the patient was asked if prior to treatment he needed cold water. He stated that the water had to be ice cold. He had kept two one-gallon containers in the refrigerator over the objections of his wife, and if his supply of cold water ran out during the night, he would get more ice cubes. The diabetes insipidus patient's need for cold water was considered of diagnostic importance by Thomas.⁷ When the polyuria and polydipsia were controlled, the patient gained so much relief that he never complained again, emphasizing the misery of the patient with diabetes insipidus.

The possibility of subclinical adrenal insufficiency was considered, but not substantiated. Clinically and experimentally the posterior pituitary and the anterior pituitary, via the adrenal cortex, are antagonistic in water metabolism.^{9, 10, 11} The nature of this relationship is not known. The sodium retaining property of the adrenal hormones probably is not a factor since aldosterone secretion is present in anterior pituitary insufficiency.^{12, 13, 14}

Our patient had clinical diabetes insipidus, and therefore may not have had adrenal insufficiency. The danger of treating myxedema in the presence of adrenal insufficiency is well known.^{15, 16} On the speculation that our patient might have adrenal insufficiency, his replacement therapy was started with prednisone. The initial dose was excessive and apparently precipitated a psychosis. Treatment was re-instituted with simultaneous small doses of thyroid extract and steroids. Whittaker and Whitehead¹⁷ indicated that an occasional patient with long standing anterior pituitary insufficiency may have his myxedema made worse by treatment with steroids.

Summary

A case of diabetes insipidus and anterior pituitary insufficiency occurring simultaneously is presented. Onset was in close relationship with an aseptic encephalitis. Successful replacement therapy was accomplished with posterior pituitary extract and target gland preparations.

Womack Army Hospital, Ft. Bragg, N. C.

References

1. MacGillivray, I., and Adams, J. F.: Puerperal panhypopituitarism. *Jr. Obst. and Gynaec. Brit. Empire* 61: 738-743, 1954, Dec.
2. Doxiades, T., and Tiliakos, M.: Diabetes insipidus in association with post partum hypopituitarism. *Brit. Med. Jr.* 1:23-25, 1956.
3. Dingman, J. F., DesPointes, R. H., Laidlaw, J. C., and Thorn, G. W.: Studies of neurohypophyseal function in man. *Jr. of Lab. and Clin. Med.* 51: 5, 690-700, May, 1958.
4. Bergna, Luis J., Schapasnik, Fidels, and Gutierrez, Angel: Panhypopituitarismo y diabetes insipida. *Prensa. Med. Argent.* 41: 1358-1363, May 14, 1954.
5. Jackson, Albert, and Hood, Thomas R.: Sarcoidosis with involvement of the pituitary gland. *Ann. Int. Med.* 49:2, 467-471 1958.
6. Blotner, Harry: Primary or idiopathic diabetes insipidus. *Metabolism* VII: 3, 191-200, May, 1958.
7. Thomas, William C., Jr.: Diabetes insipidus. *Jr. of Clinical Endocrinol.* 17: 565-582, April, 1957.
8. Gibson, P. C.: Control of treatment in myxedema by electrocardiology. *Lancet* (1) 18 January 1958, pp 128-131.
9. Engstrom, W. W., and Liebmann, A.: Chronic hyperosmolality of the body fluids with a cerebral lesion causing diabetes insipidus and anterior pituitary insufficiency. *Am. J. of Med.* 15:180-186, Aug, 1953.
10. Mirsky, I. A., Paulish, G., and Stein, M.: The antidiuretic activity of the plasma of adrenalectomized, hypophysectomized, and adrenalectomized-hypophysectomized rats. *Endocrinol.* 54: 691-697, 1954.
11. Herriman, E.: Diabetes insipidus obscured by anterior pituitary insufficiency. *Schweiz. Med. Wchnschr.* 85:1041-1045, Oct. 22, 1955.
12. August, J. Thomas, Nelson, Don H., and Thorn, George W.: Aldosterone. *New Eng. J. of Med.* 259:19, 1958, pp. 917-923.
13. Lipsett, Mortimer B., West, Charles D., MacLean, John P., and Pearson, Olof H.: Adrenal function after hypophysectomy in man. *J. Clin. Endocrinol.* 17: 356-363, March, 1957.
14. Liddle, Grant W., Duncan, LeRoy E., Jr., and Bartter, Frederic C.: Dual mechanism regulating adrenocortical function in man. *Am. J. of Med.* 21:380-386, 1956.
15. Cecil, R. L., and Loeb, R. F.: *A Textbook of Medicine*. Ninth Edition, W. B. Saunders Co., Philadelphia, 1955.
16. Williams, R. H.: *Textbook of Endocrinology*. Second Edition, W. B. Saunders Co., Philadelphia, 1955.
17. Whittaker, S. R. F., and Whitehead, T. P.: Diagnosis and treatment of hypopituitarism. *Brit. M. J.* 2: 265-269, July 31, 1954.

Renal Surgery in the Aged

Report of Two Cases

C. HERBERT FREDELL, M.D., FACS*; and JOHN F. CURRIN, M.D., FACP**; Flagstaff, Ariz.

It is generally recognized that major surgery entails a greater risk in older persons than in the younger ones. In a series of 240 patients over 69 years of age, Mithoefer⁶ reported a mortality rate of 8.3 per cent in contrast to 1.9 per cent in patients under 69 years of age.

He noted that after the age of 70, a further increase in age per se had no bearing on the mortality rate. The most common complications which caused death were those of the cardiopulmonary system.

There is probably an overestimation of the risk involved in doing major surgery on older patients and an underestimation of what can be done for and to the elderly patient. Haug and Dale¹ found a mortality difference similar to the Mithoefer's⁶ when comparing mortality rates in the elderly patients who required major surgery.

They also noted that there was a much greater mortality if the surgical procedure was an emergency one in contrast to an elective one.

Most of the major urological surgery performed on older people is done for diseases of the prostate gland. There have been few reported cases where surgery was performed on the kidney in a person over the age of seventy.

This paper is a report of two such cases. The first case is a solitary renal cortical cyst in an 83 year old man.

Case No. 1:

An 83 year old man was admitted to the Flagstaff Hospital on July 22, 1959, with complaints of fever, chills and cough of two days duration. His past history revealed that he had a myocardial infarction four years previously. Four weeks prior to admission he had one episode of painless hema-

turia. He had a history of a left renal calculus twenty years prior to admission.

Physical examination revealed a bronchopneumonia in the right lower lobe which was confirmed by roentgen examination.

Laboratory examinations revealed microscopic hematuria, a blood urea nitrogen of 24 mgm. per cent, and a phenolsulfonphthalein excretion of 60 per cent in two hours.

Intravenous pyelography revealed good excretion of contract media bilaterally. There was a calcium filled calyceal cyst in the right kidney and a renal cortical mass in the upper pole of the left kidney. (Figure 1).

On July 28, 1959, an exploration of the left renal fossa was done. A 12 cm. diameter solitary cortical cyst of the upper pole of the kidney was found. Upon opening the cyst there was clear serous fluid found and the lining of the cyst was found to be smooth throughout. (Figure 2).

The cyst was decapitated flush with the renal substance. There was no attempt to remove the attached cyst lining from the renal substance.

Postoperatively the patient had an uneventful nine days, being discharged on August 6, 1959.

Comment:

This is a case of a large solitary cortical cyst of the kidney which was found during a hospitalization for bronchopneumonia. His past history of silent hematuria and the finding of microscopic hematuria at the time of admission led to an intravenous pyelogram which revealed the lesion.

Once the lesion was found, the diagnosis was not entirely clear. The possibility of malignancy was considered. This complicated our preoperative planning. The contralateral kidney had chronic disease in it. In an 83 year old arteriosclerotic

*Chief of Surgery, Flagstaff Hospital, Flagstaff, Ariz.

**Chief of Medicine, Flagstaff Hospital, Flagstaff, Ariz.



Figure 1



Figure 2

patient one might have been tempted to offer no surgical therapy.

Shiver¹⁰ has reported 30 per cent of cortical cysts of the kidneys to be malignant. Mayers⁵ noted that there is no absolute way to tell if a cyst is benign or malignant. Clark¹ noted that the diagnosis of malignancy is more often favored when there is pain, hematuria, anemia, palpable mass, or roentgen evidence of pathological calcification or calyceal amputation.

Because there is no absolute way of telling whether a renal cyst or mass is malignant or benign, the best thing to do is to inspect it by surgical exploration. If malignancy is discovered at this time, a nephrectomy is indicated, providing the opposite kidney is well enough to maintain the patient in a satisfactory nitrogen balance post-operatively.

Preferred Therapy

If a cyst is found the preferred therapy is excision by decapitation. Attempting to remove the lining of the cyst that is adjacent to the renal substance is a bloody time consuming unnecessary procedure. Once the cyst has been opened a careful search of the lining should be made to be

certain it is smooth. If the lining is roughened and the fluid contents are bloody, it is probably a malignant cyst and a nephrectomy should be done.

The benign solitary renal cortical cyst is often asymptomatic. Frequently it will cause destruction of renal parenchyma by compression. It may become infected or a hemorrhage may occur into the cyst contents with resulting pain. If the pre-operative diagnosis is unequivocally a benign renal cyst the preferred therapy is surgical excision.

The exact number of reported and unreported cases of solitary renal cortical cyst is not known. Deming² notes that they are a fairly frequent abdominal tumor. It is of interest that the author was unable to find any reported cases of successful excision of solitary renal cortical cysts in a patient over the age of 80 years.

The second case is one of malignant hypertension due to unilateral renal artery disease in a 71 year old man.

Case No. 2:

A 71 year old man was admitted to the Flagstaff Hospital on December 28, 1959, complaining

of headaches and difficulty in reading of one month duration.

His past history revealed that he had a complete physical examination on October 26, 1959. At that time his blood pressure was 156/86. He had no dorsalis pedis pulsations bilaterally.

About two weeks after his physical examination he noted severe frontal headaches and dyspnea on mild exertion. One week prior to admission he was again examined by his physician who found his blood pressure to be 290/150. Examination of his fundi revealed grade four changes due to malignant hypertension.

Following admission he was found to have absent dorsalis pedis pulsations bilaterally with cyanotic cold feet. His femoral pulsations were palpable. He had cardiac enlargement and a presystolic gallop rhythm. His fundi revealed multiple flame, punctate, and round retinal hemorrhages. He had moderate bilateral papilledema and visible arteriosclerosis of his retinal vessels.

Laboratory examinations revealed a normal blood count and hemoglobin. His urinalysis revealed a few white and red blood cells microscopically with four plus albuminuria. His sedimentation rate was 55mm./hr. Westergren. His blood urea nitrogen was 42 mg. per cent. The Fishberg urine concentration test was normal.

Röntgenographic examination revealed no dye excretion by the left kidney by intravenous pyelography. Retrograde pyelograms revealed a small contracted left kidney with a small pelvis and ureter. (Figures 3 and 4).

The patient was placed on Inversine 15 mg. daily and Raudexan 100 mg twice daily. The blood pressure fell to 190/120 and his headaches disappeared. He was digitalized with relief of his nocturnal dyspnea.

On January 2, 1960, a right nephrectomy was done. The renal artery was arteriosclerotic with a thrombosis occluding it. An aberrant arteriosclerotic artery was present. The capsule was thickened and the kidney was small and contracted. Microscopic examination revealed multiple subcapsular



Figure 3



Figure 4

scars, a prominent Bowmans membrane, and severe arteriosclerosis of the vessels.

Postoperatively he maintained a normal urine output but his blood urea nitrogen rose rapidly to 268 mgm. per cent on the tenth postoperative day. During this period of time he was taking oral nourishment poorly and maintained on intravenous feedings. His blood pressure dropped to 140/90 immediately postoperatively and has remained in that vicinity since that time. On the twelfth postoperative day intensive forced feeding of high caloric high protein diet was undertaken. He was discharged on January 14, 1960.

On January 21, 1960, his blood urea nitrogen was 60 mgm. per cent. Examination of his fundi revealed no papilledema and only evidence of old retinal hemorrhages.

He is now up and about, working, free of pain, and reading his newspaper without difficulty.

Comment:

This is a case of sudden onset of malignant hypertension which was due to occlusion of the left renal artery. The occurrence of sudden hypertension in an arteriosclerotic 71 year old man is unusual. The findings prior to and at the time of surgery substantiated the diagnosis of renal arterial occlusion. The prompt regression of the hypertension following the nephrectomy confirmed this as being a true case of renal hypertension.

His postoperative course was stormy for the first ten days due to his negative nitrogen balance and poor oral intake. The decrease in arterial pressure decreased the effective renal arterial flow in the remaining kidney. His urea nitrogen rose until the tissue breakdown was reversed by forced oral intake.

Prior to surgery the diagnosis of occlusion of the renal artery was suspected because of the non-visualization of the kidney by intravenous pyelography and the small but normal calyceal system by retrograde studies. Since he was known to have arteriosclerosis with pulsating femoral vessels it was thought that he had arteriosclerosis of only the renal vessels, and not the aorta, with thrombosis. The sudden onset of the hypertension probably dated the time of the thrombosis.

Changes in Renal Artery

Intrinsic obstruction of the renal artery is the commonest cause of renal artery obstruction⁸. The result of these changes in the renal artery depends on the presence or absence of aberrant renal vessels. Total obstruction of the only blood flow to the kidney results in infarction and destruction of the kidney without hypertension. When an aberrant vessel or branches of the main renal vessel remain patent, atrophy of the kidney and severe hypertension usually occurs.

Poutasse and Dunstan⁹ suggested that thrombosis of the renal artery leads to release of excess

amounts of rennin into the circulation. Rennin acts on a circulating renin substrate, angiotonin, to form a powerful vasoconstrictor of arterioles called angiotensin.

The treatment of thrombosis of the renal artery with ischemic atrophy of the kidney and hypertension has been nephrectomy with relief of the hypertension^{7,8}. Once the condition has been recognized nephrectomy should not be delayed as the type of hypertension associated with renal artery thrombosis is rapidly progressive and death will result from renal insufficiency cerebrovascular accident or cardiac decompensation within a few months.

A review of the literature by Goldring³ in 1954 revealed very few cases of unilateral renal atrophy, hypoplasia, or narrowed renal vessels associated with hypertension. He considered the problem of unilateral nephrectomy and hypertension and concluded that the enthusiasm for this is on the wane and noted that the decision to remove the kidney should rest altogether on the urologic indications and not upon the hope of removing the cause of the hypertension. He found only an occasional case of arterial occlusion or infarct of the kidney associated with hypertension which was relieved by nephrectomy.

In a search of the literature the author has failed to find any case of renal artery thrombosis with sudden onset of malignant hypertension in a seventy-one year old arteriosclerotic patient which was relieved by nephrectomy.

Summary:

1. Major surgical procedures entail a greater risk in patients over 70 years of age than those who are younger. 2. There is generally an overestimation of the risk involved in doing major surgery in older patients. There is an underestimation of what can be done for and to the elderly patient surgically. 3. Renal surgery in the aged is not a commonly reported event. 4. Two cases of renal surgery in patients over the age of 70 have been reported. One case an 83 year old man with a large solitary cortical cyst of the kidney which was successfully removed. The problems in diagnosis have been discussed. The second case was a 71 year old man with renal artery thrombosis in an arteriosclerotic vessel

with associated atrophy of the kidney. There was a sudden onset of malignant hypertension which was relieved by nephrectomy. 5. In both instances the author is unaware of similar instances being reported in the literature.

References

1. Clark, R. G., et al. Differential Diagnosis Between Cancer and Solitary Serous Cysts of the Kidney. Jour. Urol. 75, pp. 922-929, 1956.

2. Denning, C. L. Tumors of the Kidney. Cambell's Urology, Vol. 2, pp. 966-968, W. B. Sanders, Philadelphia, Pa., 1954.

3. Goldring, W. Medical Diseases of the Kidney. Hypertension and Unilateral Nephrectomy. Cambell's Urology, Vol. III, pp. 2212-2221, W. B. Saunders, Philadelphia, Pa. 1954.

4. Haug, C. A., and Dale, W. A. Major Surgery in Old People. AMA Arch. of Surg. 64, pp. 421-437, April 1952.

5. Mayers, M. M. Treatment of Deep Renal Cortical Cysts. Jour. of Urol. 82, pp. 10-14, July 1959.

6. Mithoefer, J., and Mithoefer, J. C. Studies of the Aged. AMA Archives of Surgery 69, pp.58-65, July 1954.

7. McDonald, R. T. Szilogyi D. Emerick, and Smith, R. P. Nephrogenic Hypertension Following Operative Trauma to the Renal Artery. Circulation, 18, 1 July 1958.

8. Owen, W. J. and Pearlman, Carl K. Hypertension Due to Thrombosis of the Renal Artery. Report of a Case in Which a Cure Was Obtained by Nephrectomy. Jour. of Urol. 68, 1 July 1952.

9. Poutasse, E. and Dunstan, H. Urologic Causes of Hypertension, I Hypertension due to Renal Artery Lesions, Cleveland Clinic Quarterly 23, 1 Jan. 1956.

10. Shivers, C. H. de T., and Axelrod, H. D. Solitary Renal Cysts. Jour. of Urol. 69, pp. 193-202, 1953.

Medical Assistants to Meet
in Reno, Oct. 13-15

New wonder drugs, medical quackery and future training programs are among subjects to be considered by medical assistants when they gather Oct. 13-15 at Reno for the fifth annual convention of the American Association of Medical Assistants. More than 1,000 medical assistants are expected to attend the meeting at the Holiday Hotel.

Dr. Leonard W. Larson, Bismarck, N.D., president of the American Medical Association, will address the group at the banquet Oct. 15.

One of the convention highlights will be a leadership symposium Saturday afternoon. The future role of medical assistants, new drugs, space medicine and the future of medical practice will be discussed.

Organization problems of local chapters will be considered during a special "swap shop" Friday morning, and a general session on the future of medical assistant training programs will be held Saturday morning.

Additional information may be obtained from AAMA headquarters, 510 North Dearborn Street, Chicago 10, Illinois.

Improved Postal Service

Physicians are being asked to participate in the national improved mail service program by scheduling the entry of their mail in the post office so that it can be handled in the order of its priority, or importance to the mailer.

Postal officials are asking that least preferential mail be deposited at the post office between 8 a.m. and noon so that it can be processed during non-rush hours. This will reduce the peak volume of mail received at the post office after 5 p.m. and will enable speedier dispatch of preferential mail.

H. EDWARD DOWNS, M.D.

Announces Opening of his Offices

for Practice of

Internal Medicine

511 University Towers

1900 N. Oregon St. KE 2-9664 El Paso, Tex.

*Hotel Dieu,
Sister's
Hospital*

Fully Approved by the
Joint Commission on Accreditation
of Hospitals.

Latest Facilities For All Services.
Emergency Service Around
the Clock.

EL PASO, TEXAS

*Hotel Dieu
School of
Nursing*

Fully approved by the
National Nursing Accrediting
Service.

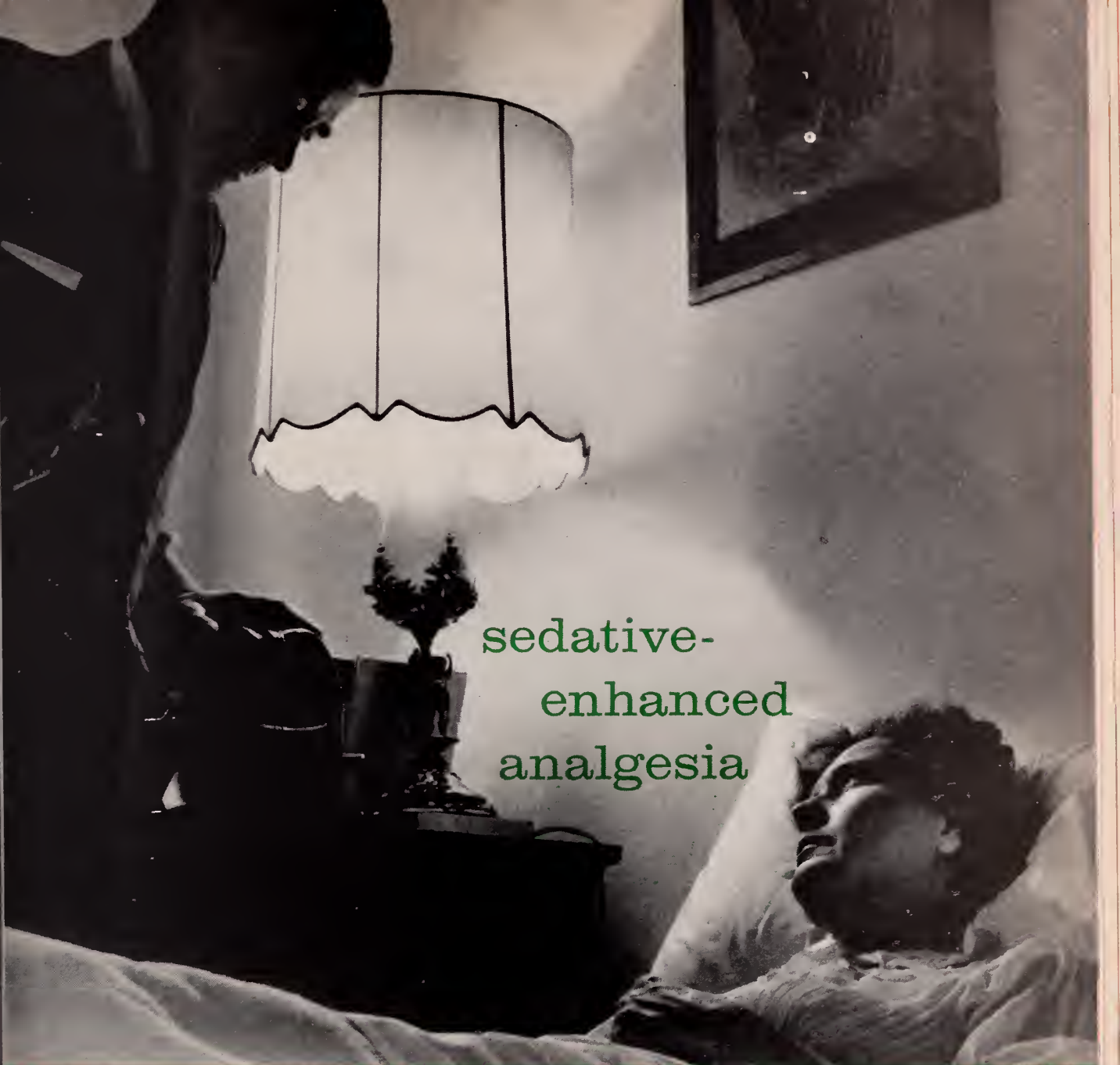
Applicants May Apply
To
Sister Aloysius, Director

EL PASO, TEXAS

*Hotel Dieu School
of Medical
Technology*

Fully Approved by the American
Medical Association, American
Society of Clinical Pathologists,
and Registry of Medical Tech-
nologists.

EL PASO, TEXAS



sedative-
enhanced
analgesia

for more satisfactory relief of anxiety-aggravated pain

PHENAPHEN[®]

- More satisfactory than "the usual analgesic compounds" for relieving pain and anxiety.¹
- More effective than a standard A.P.C. preparation for relief of moderate to severe pain.²

Each PHENAPHEN capsule contains:

Acetylsalicylic acid (2½ gr.) 162 mg.
Phenacetin (3 gr.) 194 mg.
Phenobarbital (¼ gr.) 16.2 mg.
Hyoscyamine sulfate 0.031 mg.

Also available:

PHENAPHEN with CODEINE PHOSPHATE
¼ GR. (16.2 mg.) Phenaphen No. 2
PHENAPHEN with CODEINE PHOSPHATE
½ GR. (32.4 mg.) Phenaphen No. 3
PHENAPHEN with CODEINE PHOSPHATE
1 GR. (64.8 mg.) Phenaphen No. 4

1. Meyers, G. B.: Ind. Med. & Surg. 26:3, 1957. 2. Murray, R. J.: N. Y. St. J. Med. 53:1867, 1953.

Bottles of 100 and 500 capsules.

A. H. ROBINS CO., INC., RICHMOND 20, VIRGINIA

Making today's medicines with integrity seeking tomorrow's with persistence





Southwestern Physicians' Directory



SAUL B. APPEL, M.D.

Certified by the American Board of Internal Medicine

CARDIOVASCULAR DISEASES

Suite 10E KE 3-5201 EL PASO MEDICAL CENTER 1501 Arizona Ave.
El Paso, Texas

ARTESIA MEDICAL CENTER

Henry L. Wall, M.D., Suite A SH 6-2311
General Practice
Robert W. Harper, M.D., Suite B SH 6-2531
Surgery and Gynecology
Owen C. Taylor, Jr., M.D., Suite C SH 6-2521
General Practice
C. Pardue Bunch, M.D., Suite D SH 6-3321
General Practice
Gerald A. Slusser, M. D., Suite E SH 6-2441
Surgery
X-ray and Medical Laboratory SH 6-4200
Fourth and Washington Artesia, New Mexico

ANDREW M. BABEY, M. D.

Certified by the American Board of Internal Medicine

CARDIOVASCULAR DISEASES

250 West Court Avenue JACkson 4-4481 Las Cruces, N. M.

FRANK O. BARRETT ANESTHESIOLOGY ASSOCIATES

J. A. Shugart, M.D.

(Diplomate American Board of Anesthesiology)

Jack Walker, M.D., J. W. Redelfs, M.D., Jack Ellis, M.D.

B. F. Fehlman, M. D., C. G. Race, M.D.

— ANESTHESIOLOGY —

El Paso Medical Center KE 3-8431 1501 Arizona Ave.
El Paso, Texas

OTTO L. BENDHEIM, M. D.

DIPLOMATE AMERICAN BOARD OF PSYCHIATRY &
NEUROLOGY

5051 N. 34th Street CRestwood 7-7431 Phoenix, Arizona

RAYMOND J. BENNETT, M. D.

Diplomate of the American Board of Neurology and Psychiatry

PRACTICE LIMITED TO NEUROPSYCHIATRY

Suite 7A El Paso Medical Center 1501 Arizona Avenue
Phone KE 2-1177 El Paso, Texas

JACK A. BERNARD, M.D., F.A.C.P.

Diplomate American Board Internal Medicine

INTERNAL MEDICINE

CARDIOVASCULAR DISEASES

Suite 3C El Paso Medical Center 1501 Arizona Avenue
Phone KE 3-8151 El Paso, Texas

VICTOR M. BLANCO, M.D.

Diplomate of the American Board of Surgery

GENERAL AND CANCER SURGERY

205 University Towers Building

1900 N. Oregon St. KE 3-5519 El Paso, Texas

CLEMENT C. BOEHLER, M. D., F.A.C.S.

H. W. DEMAREST, M.D., F.A.C.S.

Diplomates American Board Obstetrics and Gynecology

Suite B-A Medical Center 1501 Arizona Avenue
Phone KE 2-6591 El Paso, Texas

FREDERICK P. BORNSTEIN, M.D.

Certified by the American Board of Pathology
in Pathologic Anatomy and Forensic Pathology

102 University Towers Bldg.

1900 N. Oregon St. KE 2-3901 El Paso, Texas

LOUIS W. BRECK, M.D.

W. COMPERE BASOM, M.D.

MORTON H. LEONARD, M.D.

MARIO PALAFOX, M.D.

ZIGMUND W. KOSICKI, M.D.

ADRIAN L. GRASS, M.D.

The El Paso Orthopaedic Surgery Group

1220 N. Stanton St. Telephone KE 3-7465 El Paso, Texas

BASIL K. BYRNE, M.D., F.A.A.P.

IRVIN J. GOLDFARB, M.D., F.A.A.P.

Diplomates American Board of Pediatrics
PEDIATRICS

Suite 4A El Paso Medical Center 1501 Arizona Avenue
KE 3-8487 El Paso, Texas

ROBERT J. CARDWELL, M.D.

(Diplomate American Board of Obstetrics and Gynecology)

608 University Towers Building

1900 N. Oregon St. KE 3-7587 El Paso, Texas

ROBERT N. CAYLOR, M.D.

Practice Limited to Ophthalmology

508 University Towers Building

1900 N. Oregon St. KE 3-4909 El Paso, Texas



Southwestern Physicians' Directory



WILLIAM I. COLDWELL, M.D.

Certified by the American Board of Internal Medicine

INTERNAL MEDICINE

501 University Towers Building

1900 N. Oregon St. KE 2-2661 El Paso, Texas

BRANCH CRAIGE, M.D., F.A.C.P.

(Certified by American Board of Internal Medicine)

INTERNAL MEDICINE

Suite 5B El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-7121 El Paso, Texas

E. S. CROSSETT, M.D.

Diplomate American Board of Thoracic Surgery

GEORGE W. IWEN, M.D.
THORACIC SURGERY

Cardiovascular Surgery Broncho-Esophagology
Suite 11-D KE 3-8511 or KE 2-2474 1501 Arizona Ave.
El Paso Medical Center El Paso, Texas

WICKLIFFE R. CURTIS, M. D., F.A.C.S.

JAMES D. BOZZELL, M.D., F.A.C.S.

Diplomates American Board of Urology

PRACTICE LIMITED TO UROLOGY

Suite 3B El Paso Medical Center 1501 Arizona Avenue
Phone KE 3-1426 El Paso, Texas

RITA L. DON, M.D.

Allergy

102 University Towers Building

1900 N. Oregon St. KE 2-3901 El Paso, Texas

ANTONIO DOW, M.D., F.A.C.S.

(Diplomate of American Board of Surgery)

GENERAL SURGERY

205 University Towers Building

1900 N. Oregon St. KE 2-7305 El Paso, Texas

HAROLD D. DOW, M.D.
FREDERICK J. KOBERG, M.D.

General Practice — Surgery

Box 456
702 Hobbs Road Phone 3641 Seminole, Texas

H. EDWARD DOWNS, M.D.

Internal Medicine

511 University Towers

1900 N. Oregon St. KE 2-9664 El Paso, Texas

JOHN A. EISENBEISS, M.D., F.A.C.S.

WILLIAM B. HELME, M.D.

Diplomates of the American Board of Neurological Surgery

NEUROSURGERY

926 E. McDowell Road AL 4-3151 Phoenix, Arizona

WARD EVANS, M.D., F.A.C.S.

(Diplomate American Board of Surgery)

SURGERY

608 University Towers Building

1900 N. Oregon St. KE 3-7587 El Paso, Texas

LESTER C. FEENER, M.D., F.A.C.P.

Diplomate American Board of Internal Medicine

INTERNAL MEDICINE

CARDIOVASCULAR DISEASES

404 Banner Bldg. KE 2-5771 El Paso, Texas

ALBERT A. GEMOETS, M.D.

Member American Academy of General Practice

GENERAL PRACTICE

3726 1/2 Alameda Ave. KE 3-7689 El Paso, Texas

H. M. GIBSON, M.D., F.A.C.S.

Certified by American Board of Urology

PRACTICE LIMITED TO UROLOGY

512 University Towers Building

1900 N. Oregon St. KE 2-8130 El Paso, Texas

L. A. GLADSTONE, M.D.

W. D. FEINBERG, M.D.

INTERNAL MEDICINE

Bldg. 14, Suite D 1501 Arizona Ave.
El Paso Medical Center KE 3-2508 El Paso, Texas

JAMES J. GORMAN, M.D., F.A.C.P.

Diplomate American Board of Internal Medicine

DIAGNOSIS — GASTROENTEROLOGY

701 First National Building KE 2-6221 El Paso, Texas

J. LEIGHTON GREEN, M.D., F.A.C.S.

GENERAL and GYNECOLOGICAL SURGERY

Suite 3A El Paso Medical Center 1501 Arizona Avenue
Phone KE 2-9790 El Paso, Texas



Southwestern Physicians' Directory



DRS. HART, BOVERIE, BLACK,
CLAYTON, GREEN & WHITE

PATHOLOGICAL AND CLINICAL LABORATORIES
X-RAY DIAGNOSIS AND THERAPY

Radioactive
Isotopes

Cobalt
Beam Therapy

Pathology

M. S. HART, M.D.

C. L. GREEN, M.D.

Diplomates American Board of Pathology

R. F. BOVERIE, M.D.

G. L. BLACK, M.D.

R. S. CLAYTON, M.D.

J. E. WHITE, M.D.

Diplomates American Board of Radiology

MELVIN A. LYONS, M.S.H.A.

Business Manager

El Paso Medical Center Medical Arts Building
1501 Arizona Ave., Suite 2A 415 E. Yandell Drive, Suite 105
KE 3-4478 KE 3-6926

EL PASO, TEXAS

SOL HEINEMANN, M.D., F.A.C.S.

Diplomate, American Board of Urology

UROLOGY

212 University Towers Bldg.
1900 N. Oregon St. LI 2-1539 El Paso, Texas

SOLOMON HELLER, M.D.

INTERNAL MEDICINE

Hematology—Endocrinology

505 University Towers Building

1900 N. Oregon St. KE 3-0406 El Paso, Texas

HERBERT E. HIPPS, M.D.

ORTHOPEDIC SURGERY

1612 Columbus Ave. 4-4701 Waco, Texas

RUSSELL HOLT, M.D.

B. LYNN GOODLOE, M.D.

GENERAL and GYNECOLOGICAL SURGERY

MEDICAL ARTS BUILDING

415 East Yandell Blvd. KE 3-3443 El Paso, Texas

RALPH H. HOMAN, M.D., F.A.C.P.

CARDIOLOGY

ROBERT B. HOMAN, JR., M.D., F.A.C.S.

DISEASES OF THE CHEST — THORACIC SURGERY

Suite 7D El Paso Medical Center 1501 Arizona Avenue
Phone KE 3-1409 El Paso, Texas

GEORGE W. HORTON, M.D.

PRACTICE LIMITED TO ORTHOPEDICS

513 West 4th Street FEderal 2-1271 Odessa, Texas

LOUIS G. JEKEL, M.D.

ROBERT H. SNAPP, M.D.

Diplomates American Board of Dermatology

DERMATOLOGY

550 W. Thomas Rd. CR 4-4901 Phoenix, Ariz

W. A. JONES, M.D.

Diplomate American Board of Neurological Surgery

K. ZOLFOGHARY, M.D.,

NEUROLOGICAL SURGERY

Suite 1C El Paso Medical Center 1501 Arizona Avenue
KE 2-7579, KE 3-9076 El Paso, Texas

G. H. Jordan, M.D., F.A.C.S.

C. E. Webb, M.D., F.A.C.S.

DRS. JORDAN AND WEBB

Diplomates American Board of Surgery

GENERAL and GYNECOLOGICAL SURGERY

Suite 7B El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-1693 El Paso, Texas

LINDELL M. KINMAN, M.D.

Diplomate American Board of Urology

UROLOGY

300 West Alameda Phone MA 2-4111 Roswell, N. Mex.

M. NATHAN KLEBAN, M.D.

Certified by American Board of Internal Medicine

Internal Medicine

610 University Towers Building

1900 N. Oregon St. KE 2-7079 El Paso, Texas

GILBERT LANDIS, M.D., F.A.C.S.

Diplomate American Board of Obstetrics & Gynecology

OBSTETRICS, GYNECOLOGY
and GYNECOLOGICAL SURGERY

Suite 15-D KE 3-5023 1501 Arizona Ave.
El Paso Medical Center El Paso, Texas

ROYCE C. LEWIS, JR., M.D.

Diplomate American Board of Orthopedic Surgery

ORTHOPEDIC SURGERY and SURGERY OF THE HAND

1910 Knoxville St. PO 3-8281 Lubbock, Texas

Butazolidin

brand of phenylbutazone

Geigy

arthritis and allied disorders



Proved by a decade of experience

Ten years of world-wide experience... almost 2000 published reports... have progressively entrenched Butazolidin as the leading nonhormonal antiarthritic agent.

In virtually all forms of arthritic disorder, Butazolidin affords prompt symptomatic and objective improvement without development of tolerance... without danger of hypercortisonism.

Butazolidin®, brand of phenylbutazone, tablets of 100 mg.; Butazolidin® alka capsules containing Butazolidin, 100 mg.; dried aluminum hydroxide gel, 100 mg.; magnesium trisilicate, 150 mg.; homatropine methylbromide, 1.25 mg.



Southwestern Physicians' Directory



A. L. LINDBERG, M.D.

Neoplastic Diseases

TUCSON TUMOR CLINIC

721 N. 4th Ave. MA 3-2531 Tucson, Arizona

CHARLES P. C. LOGSDON, M.D.

CARDIOLOGY

415 E. Yandell Blvd. KE 3-7916 El Paso, Texas

TRUETT L. MADDOX, D.D.S.

ORAL SURGERY

Suite 9A El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-3659 El Paso, Texas

WALTER B. MANTOOTH, JR., M. D.

JOE H. LEHMAN, M. D.

Dermatology and Cancer of the Skin

Suite 101 Lubbock
3801 19th Street SWift 9-4359 Texas

GEORGE B. MARKLE, IV, M.D.

Diplomate of the American Board of Surgery

GENERAL and GYNECOLOGICAL SURGERY

911 North Canal TU 5-5240 Carlsbad, New Mexico

MARSHALL CLINIC

I. J. Marshall, M.D.

General Surgery and Diagnosis

U. S. Marshall, M.D.

General Surgery and General Practice

E. A. Latimer, M.D.

General Practice

C. H. Fowler, M.D.

Internal Medicine and Cardiology

Thomas J. Jones, M.D.

Diseases of the Skin and Allergies

H. D. Johnson, Jr., D.D.S.

ROSWELL NEW MEXICO

HOWARD J. H. MARSHALL, M.D.

Member American Academy of General Practice

GENERAL PRACTICE

Suite 8E 1501 Arizona Avenue
El Paso Medical Center KE 2-2431 El Paso, Texas

MEDICAL CENTER HOSPITAL AND CLINIC

Eugene McCarthy, M.D., FACS, FICS

Diplomate American Board of Obstetrics & Gynecology

Jeff H. Davis, M.D., AAGP; Joe J. Horn, M.D., AAGP

Howard Handcock, M.D., DABR

A. B. Cairns, M.D., FACCP; W. Ralph Thomas, M.D.

220 St. Louis St. CA 4-7426 Plainview, Texas

JAMES R. MORGAN, M.D.

Certified by American Board of Obstetrics & Gynecology

OBSTETRICS and GYNECOLOGY

Suite 3A El Paso Medical Center 1501 Arizona Ave.

KE 3-2265 El Paso, Texas

A. WILLIAM MULTHAUF, M.D., F.A.C.S.

UROLOGICAL DIAGNOSIS AND SURGERY

1315 First National Bldg. KE 3-8986 El Paso, Texas

WALLACE E. NISSEN, M.D., F.A.C.S.

W. W. KRIDELBAUGH, M.D., F.A.C.S.

GENERAL SURGERY

Medical Arts Square

801 Encino Place, Suite 35 3-2251 Albuquerque, N. M.

F. KEITH OEHLISCHLAGER, M.D.

WILLIAM M. BRANTLEY, M.D.

OBSTETRICS & GYNECOLOGY

1167 E. 42nd St. Sherwood Medical Center Phone
Suites 5 & 6 Odessa, Texas EM 6-4447

THE ORTHOPEDIC CLINIC

ORTHOPEDIC SURGERY

W. A. Bishop, Jr., M.D., F.A.C.S.*

Alvin L. Swenson, M.D., F.A.C.S.*; Ray Fife, M.D., F.A.C.S.*

Sidney L. Stovall, M.D., F.A.C.S.*

Thomas H. Taber, Jr., M.D., F.A.C.S.*; Robert A. Johnson, M.D.

*Diplomates of the American Board of Orthopedic Surgery

2620 N. Third St. CRestwood 7-6211 Phoenix, Arizona

JAMES M. OVENS, M.D.

F.A.C.S., F.I.C.S.

Diplomate American Board of Surgery

CANCER AND TUMOR SURGERY

X-RAY AND RADIUM THERAPY

333 W. Thomas Road 279-7301 Phoenix, Ariz.

ROBERT E. PARKINS, D.D.S.

GENERAL DENTISTRY

Bldg. I, Suite E 1501 Arizona Ave.
Phone KE 3-1245 El Paso Medical Center El Paso, Texas



Southwestern Physicians' Directory



JACK C. POSTLEWAITE, M.D.

Diplomate American Board of Internal Medicine

INTERNAL MEDICINE

Suite 5D 1501 Arizona Ave.
El Paso Medical Center KE 2-1385 El Paso, Texas

DONALD RATHBUN, M.D.

NEUROLOGY

and

Internal Medicine

Suite 4B KE 2-8778 1501 Arizona Ave.
El Paso Medical Center El Paso, Texas

VINCENT M. RAVEL, M.D.

Diplomate American Board of Radiology

Radiology — Radio-Isotopes

Cobalt⁶⁰ — Teletherapy

101 University Towers Bldg.
El Paso KE 2-3459 Texas

HERMAN RICE, M.D.

Practice Limited to General Surgery

El Paso Medical Center

Bldg. 4-B 1501 Arizona Ave.
Phone KE 3-8051 El Paso, Texas

RISSLER-WOLLMANN CLINIC

ROSS W. RISSLER, M.D., F.A.C.C.

(Certified by the American Board of Internal Medicine)

INTERNAL MEDICINE — CARDIOLOGY

WALTER W. WOLLMANN, M.D., F.A.C.S.

(Certified by the American Board of Surgery)

GENERAL SURGERY

2001 Grant Ave. KE 3-1601 El Paso, Texas

CECIL A. ROBINSON, M.D., F.A.C.S.

Diplomate American Board of Orthopaedic Surgery

Orthopaedic Surgery

111 No. Pine Street JU 6-2541 Kermit, Texas

S. PERRY ROGERS, M.D.

W. HUNTER VAUGHAN, M.D.

(Diplomates American Board of Orthopedic Surgery)

ORTHOPEDIC SURGERY

Suite 2B El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-4433 El Paso, Texas

WILLARD W. SCHUESSLER, M.D.

DONALD H. EWALT, M.D.

Diplomates of the American Board of Plastic Surgery

Plastic, Reconstructive Surgery and

Maxillo-facial Surgery

1501 Arizona Ave. Medical Center, Suite 4-C
El Paso, Texas

F. P. SCHUSTER, M.D.

S. A. SCHUSTER, M.D.

NEWTON F. WALKER, M.D.

BRADFORD HARDIE, M.D.

EYE, EAR, NOSE AND THROAT-BRONCHOSCOPY

First National Bldg. KE 2-1495 El Paso, Texas

O. J. SHAFFER, D.D.S., F.A.C.D.

(Diplomate American Board of Oral Surgery)

ORAL SURGERY

Suite 1D El Paso Medical Center 1501 Arizona Ave.
Phone KE 3-6742 El Paso, Texas

D. J. SIBLEY, JR., M.D.

GENERAL PRACTICE

Box 367 Phone 584 Ft. Stockton, Texas

EUGENE P. SIMMS, M.D.

— GENERAL PRACTICE —

Medical Arts Center

1213 Tenth Street HEmlock 7-1720 Alamogordo, N. M.

Leslie M. Smith, M.D. John C. Wilkinson, M.D.
H. D. Garrett, M.D.

DRS. SMITH, GARRETT & WILKINSON

Diplomates American Board of Dermatology

DISEASES OF THE SKIN

Suite 3D El Paso Medical Center 1501 Arizona Ave.
Phone KE 3-6172 El Paso, Texas

C. M. STANFILL, M.D.

Diplomate American Board of Otolaryngology

EAR, NOSE AND THROAT

Stapes Mobilization

507 University Towers Building

1900 N. Oregon St. KE 2-9449 El Paso, Texas

ROBERT HEALY STEVENS, B.S., M.D.

F.C.C.P.

ALLERGY — INTERNAL MEDICINE

1313 N. Second St. AL 4-8841 Phoenix, Arizona



Southwestern Physicians' Directory



C. S. STONE, M.D., F.A.C.S.

EXpress 3-5323

301 East Cain Street

Hobbs, N.M.

JESSON L. STOWE, M.D.

GRAY E. CARPENTER, M.D.

GYNECOLOGY AND OBSTETRICS

2323 Montana Avenue

KE 2-4631

El Paso, Texas

WINSLOW P. STRATEMEYER, M.D.

Diplomate American Board of Neurological Surgery

NEUROLOGICAL SURGERY

Suite 11A

Office KE 2-9167

1501 Arizona Ave.

El Paso Medical Center

Home JU 4-0553

El Paso, Texas

M. D. THOMAS, M.D.

Diplomate American Board of Anesthesiology

Suite 12-D

KE 3-3745

1501 Arizona Ave.

El Paso, Texas

El Paso Medical Center

TURNER'S CLINICAL

& X-RAY LABORATORIES

GEORGE TURNER, M.D.

DELPHIN von BRIESEN, M.D.

HELEN W. ANDERSON, M.D.

MEDICAL CENTER

1501 Arizona Ave.
Building No. 6

Phone: KE 2-4689
El Paso, Texas

ROBERT F. THOMPSON, M.D., F.A.C.S.

(Certified by American Board of Urology)

UROLOGY

301 University Towers Building

1900 N. Oregon St.

KE 2-4321

El Paso, Texas

3500 Physicians Read

Southwestern Medicine

HARRY H. VARNER, M.D.

LEIGH E. WILCOX, M.D.

RUSSELL L. DETER, M.D.

GENERAL SURGERY

Suite 5E

1501 Arizona Ave.

El Paso Medical Center

Phone KE 2-6529

El Paso, Texas

WILLIAM H. WADE, M.D., F.A.C.S.

Diplomate American Board of Surgery

GENERAL SURGERY

CARDIOVASCULAR SURGERY

El Paso Medical Center, 15-B

1501 Arizona Ave.

KE 2-8111

El Paso, Texas

RICHARD P. WAGGONER, M.D.

M.S. (SURG.), F.A.C.S.

GENERAL SURGERY

504 N. Richardson St.

Phone 208

Roswell, N. M.

GRADY M. WALLACE, M.D., D.A.B.O.

Practice Limited to the Eye

3801 19th Street

SW 9-4343

Lubbock, Texas

The Clinic-Hospital of San Angelo

D. D. WALL, M.D.

Obstetrics & Gynecology

R. M. FINKS, M.D.

Pediatrics

M. D. KNIGHT, M.D.

Surgery

W. H. BRAUNS, M.D.

Internal Medicine

ROY E. MOON, M.D.

Obstetrics & Gynecology

CHAS. F. ENGELKING, M.D.

Ear, Nose and Throat

DALE W. HAYTER, M.D.

Ophthalmology

R. A. MORSE, M.D.

Internal Medicine

RALPH R. CHASE, M.D.

Pediatrics

TOM R. HUNTER, M.D.

Surgery

H. W. DISERENS, M.D.

Pediatrics

Consultant in Pathology: LLOYD R. HERSHBERGER, M.D.

Consultants in Radiology: JOHN E. BALLARD, M. D.; JOHN G. BOLEN, M.D.

224-234 W. BEAUREGARD AVE.

J. B. ADCOCK, Administrator

SAN ANGELO, TEXAS

What now?



Chymar[®] for one thing

SUPERIOR SYSTEMIC ANTI-INFLAMMATORY ENZYME

to control inflammation, swelling and pain in SURGICAL TRAUMA, fractures and traumatic injuries. Reaction of tissue to surgical procedures and acute trauma delays healing through inflammation, edema and retarded absorption of blood extravasates. Timely use of Chymar minimizes these reactions—edema subsides, inflammation is suppressed, and absorption of extravasates is expedited. In the treatment of wounds, Chymar effected relief of pain, decrease in edema, and absorption of hematoma in 90% or more of patients.¹ In a study of 491 surgical cases, it was frequently observed that "post-operative wound 'hardness' had disappeared in 10-14 days."² In cosmetic surgery, results with supportive Chymar "were remarkable."³ And in traumatic injuries Chymar has consistently relieved pain and swelling, speeded healing of damaged tissue.⁴

1. Morani, A. D.: J. Med. Women's Fed. 42:12, 1960. 2. Cigarroa, L. G.: J. Internat. Coll. Surgeons 34:442, 1960. 3. Moore, F. T.: Brit. J. Plastic Surg. 11:335, 1959. 4. Personal Communications to the Medical Department, Armour Pharmaceutical Company, 1959.

the systemic
route to
faster
healing at
any location



ARMOUR PHARMACEUTICAL COMPANY

KANKAKEE, ILLINOIS • A Leader in Biochemical Research

CHYMAR

Chymar Aqueous and Chymar (in oil) contain crystallized chymotrypsin, a proteolytic enzyme with systemic anti-inflammatory properties. Each cc. of Chymar contains 5000 Armour Units of chymotrypsin, 0.18% methyl paraben, 0.02% propyl paraben, 2% aluminum monostearate, q.s. sesame oil. Each cc. of Chymar Aqueous contains 5000 Armour Units of chymotrypsin, 0.9% sodium chloride, 0.2% calcium acetate, 0.01% thimerosal, q.s. Water for Injection. ACTION: Reduces inflammation of all types; reduces and prevents edema except that of cardiac or renal origin; hastens absorption of blood and lymph extravasates; helps to liquefy thick tenacious mucous secretions; restores local circulation; promotes healing; reduces pain. INDICATIONS: Chymar is indicated in respiratory conditions such as asthma, bronchitis, sinusitis and rhinitis; in accidental trauma to speed reduction of hematomas, bruises and contusions; in inflammatory dermatoses to ameliorate acute inflammation in conjunction with standard therapies; in gynecologic conditions therapeutically or in conjunction with antibiotics in pelvic inflammatory disease; in surgical procedures as biopsies, G.I. surgery, hernia repairs, hemorrhoidectomies, plastic surgery and thrombophlebitis; in peptic ulcers and ulcerative colitis as an adjunct to diet, antispasmodics, antacids, etc.; in genitourinary disorders as epididymitis, orchitis and prostatitis; in eye conditions as acute conjunctivitis, traumatic edema, hematomas, and eye surgery; in dental and oral surgery as fractures of the mandible or maxilla, alveolotomies, denture fitting, and multiple extractions; and in obstetrics as in episiotomies, breast engorgement, and thrombophlebitis. PRECAUTIONS: Chymar and Chymar Aqueous are for intramuscular injection only. Although sensitivity to chymotrypsin is uncommon, reactions to anti-inflammatory enzymes have been observed. The usual remedial agents (epinephrine, corticotropin (HP* ACTHAR Gel), antihistamine, aminophylline, etc.) should be readily available in case of untoward reactions. Precautions (scratch testing for Chymar (in oil), scratch or intradermal testing for Chymar Aqueous) should be exercised in those patients with known or suspected allergies or sensitivities. As with any foreign protein, patients may develop sensitivity from repeated injections. It is, therefore, recommended that the above precautions be considered prior to administration. In further treatment of those patients in whom a previous injection of chymotrypsin produced signs of possible sensitivity, such as localized edema and erythema at injection site, urticaria, conjunctivitis, etc., particular care must be exercised. INCOMPATIBILITIES: With usual agents, none known—e.g., compatible with antibiotics and anesthetics. DOSAGE: 0.5 cc. to 1.0 cc. deep intramuscularly once or twice daily, depending on severity of condition. Decrease frequency as course of condition is altered. In chronic or recurrent conditions, 0.5 cc. to 1.0 cc. once or twice weekly. SUPPLIED: Chymar in Oil 5 cc. vials and Chymar Aqueous 1 and 5 cc. vials; 5000 Armour Units of proteolytic activity per cc. *Highly Purified.

© May, 1961, A.P. Co.





Southwestern General Hospital

Accredited by the Joint Commission on Accreditation of Hospitals

Member Hospital:

American Hospital Association
Texas Hospital Association
Blue Cross of Texas

•

COTTON AVENUE AND ERIE STREET • EL PASO, TEXAS

OVERTON CLINIC

300 Hughes Building

PAMPA, TEXAS

M. C. Overton, Jr., M.D.
Surgery and Gynecology

E. S. Williams, M.D.
Pediatrics and Obstetrics

J. R. Donaldson, M.D.
Surgery

G. R. Hrdlicka, M.D.
Radiology

C. M. Lang, M.D.
Surgery

R. W. Moore, M.D.
Internal Medicine

DUTTON LABORATORIES

FREDERICK P. BORNSTEIN, M.D.
(Certified by American Board of Pathology)
Pathological Anatomy and Forensic Pathology

RITA L. DON, M.D.
(Associate Fellow, American College of Allergists)
Allergy and Clinical Pathology

JOHN B. FRERICHS, M.D.
(Certified by American Board of Pathology)
Pathological Anatomy and Clinical Pathology

J. A. HANCOCK, Ph.D.
Consultant in Chemistry

616 Mills Bldg.

KE 2-3901

102 University Towers

El Paso, Texas



- Open medical staff • 91 bed capacity
- Ratio of more than one registered staff nurse to each two patients
- All rooms air-conditioned
- Spacious grounds cover ten acres
- Licensed and approved by Arizona State Department of Health
- Member of:
 - American Hospital Association
 - Arizona Hospital Association
 - Association of Western Hospitals
 - National Association of Private Psychiatric Hospitals
- Approved by:
 - The Joint Commission on Accreditation of Hospitals
 - and also by:
 - The American Psychiatric Ass'n

Located in the heart of the beautiful Phoenix citrus area near picturesque Camelback Mountain, this hospital is dedicated exclusively to the treatment of psychiatric and psychosomatic disorders, including alcoholism.

Facilities include:

- * Spacious, year 'round outdoor recreation area
- * Heated swimming pool
- * Modern, comfortable rooms

Camelback Hospital

5055 North 34th Street

AMherst 4-4111

PHOENIX, ARIZONA

OTTO L. BENDHEIM, M.D., F.A.P.A., Medical Director

SOUTHWESTERN SURGICAL SUPPLY CO.

Hospital Supplies and Equipment

Physician's X-Ray Apparatus Laboratory Equipment

Your distributor for leading manufacturer's equipment and supplies — look to Southwestern for products and service. Some of our complete lines are listed for your convenience.

Air-Shields Equipment	Bard-Parker Company
Cambridge Instrument Co.	Becton-Dickinson Company
Clay-Adams Company	Ethicon Suture Corporation
Meals-On-Wheels	Hyland Laboratories
Shampaine Company	Johnson & Johnson
Simmons Company	J. Sklar Mfg. Company
Wilmot-Castle Co.	Warner-Chilcott Company

Our Sales & Service Representatives Cover the Southwest

Offices & Warehouses

EL PASO

ALBUQUERQUE

PHOENIX

new...



SMALL



ODORLESS



EASY-TO-TAKE



TASTELESS

Pruleit

Mission
PHARMACAL CO.

SAN ANTONIO, TEXAS

Laxative

The active ingredient: is analogous to a substance found in prunes. Is not absorbed from the digestive tract.

Give Us A Trial On Your

TAYLOR BACK BRACE

Orders

- Send the following measurements: from level of shoulders to tip of sacrum; circumference of pelvis above trochanters; circumference of waist; height and weight.

CHRISTOPHER'S BRACE AND LIMB CO.

2231 Montana St.

KE 2-9690

EL PASO, TEXAS

UNIFORMS

Doctors • Nurses • Interns • Technicians

Poplin, Nylon, Dacron
White and Colors

SURE-FIT UNIFORM CO.

612 N. Oregon St.

KE 2-1374

El Paso, Texas

C. G. McDow and Son, Props.

Rio Grande Pharmacy

419-421 South Stanton St.

KE 2-4473

El Paso, Texas

Only at the Popular in El Paso . . .

HICKEY FREEMAN CUSTOMIZED CLOTHES

POPULAR DRY GOODS CO.



GUNNING & CASTEEL DRUG STORES

"There is no finer prescription service . . . anywhere"

14 Conveniently Located Stores

El Paso, Texas

TAYLOR-SIMPKINS, INC.

MEDICAL OXYGEN

2123 Texas St.

KE 3-0952

El Paso, Texas

Nights — Call LO 5-0359, or LO 5-3060



MEDICAL CENTER PHARMACY

YOUR PROFESSIONAL PHARMACY
IN THE EL PASO MEDICAL CENTER

1501
ARIZONA AVE.

PHONE KE 2-6968-69

EL PASO,
TEXAS

We Carry A Complete Line of

DIABETIC FOODS AND SUPPLIES

McKEE PRESCRIPTION PHARMACY

107 East San Antonio Ave., El Paso

Dial KE 2-2693

For Your Convenience

Use Our Handy Charge-A-Plate Service!

the white house

El Paso, Texas

RICHARD E. MARTIN

MARTIN MORTUARY

Dial KE 2-3691

710 N. Stanton St.

El Paso, Texas

HARDING AND ORR Funeral Home

EL PASO, TEXAS

320 Montana Ave.

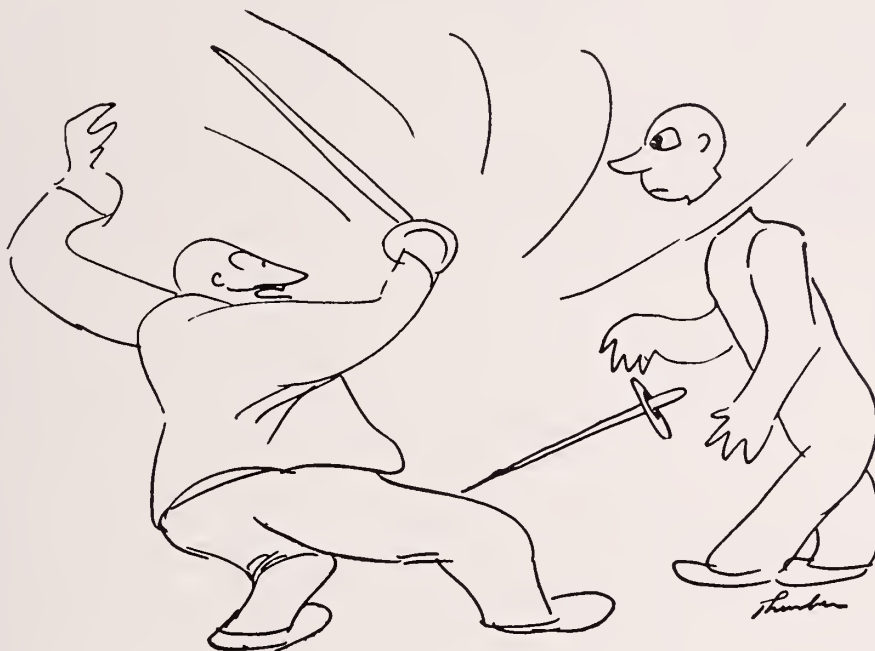
KE 3-1646

Kaster & Maxon

Funeral Home

El Paso, Texas

KE 2-3431



"Touché!"

COPYRIGHT © 1932 JAMES THURBER

For a better way to treat headache,
prescribe **Trancoprin[®]**

How Trancoprin relieves pain: Because most pain is accompanied by muscle spasm and tension, good medical practice suggests use of an analgesic that will relax skeletal muscles as well as dim pain perception. Such an analgesic is Trancoprin — a combination of aspirin and Trancopal[®], a proved, safe, skeletal muscle relaxant and tranquilizer. Trancoprin can be prescribed for any pain, except pain of such severity that a narcotic is needed.

Dosage: Adults, 2 tablets three or four times daily; children (5 to 12 years), 1 tablet three or four times daily. Each tablet contains 300 mg. of aspirin and 50 mg. of Trancopal (brand of chlormezanone). Bottles of 100 tablets.

Winthrop LABORATORIES
New York 18, N.Y.

1572M

ASTHMA RELIEF

in seconds

MEDIHALER[®]

the most effective
anti-asthmatics...

administered in the
most effective manner...

simplest and most
convenient for
the patient...



Available with either of the two
outstanding bronchodilators

MEDIHALER-ISO[®]

Isoproterenol sulfate, 2.0 mg. per cc., suspended in inert, nontoxic aerosol vehicle. Contains no alcohol. Each automatically measured dose contains 0.075 mg. isoproterenol.

MEDIHALER-EPI[®]

Epinephrine bitartrate, 7.0 mg. per cc., suspended in inert, nontoxic aerosol vehicle. Contains no alcohol. Each automatically measured dose contains 0.15 mg. epinephrine.

Usual precautions for administration of isoproterenol and epinephrine should be observed.



Northridge, California

West Cox, Librarian
New York City Library of Medicine
2 East 103 Street

134

Southwestern MEDICINE

Official Journal of The Southwestern Medical Association,
The Western Association of Railway Surgeons, The Southwest Obstetrical and Gynecological Society,
Southwestern Dermatological Society, Texas District One Medical Association,
The Southwestern New Mexico Medical Society, and El Paso County Medical Society

IN THIS ISSUE

LIPSON
OCT 10 1961
NEW YORK ACADEMY
OF MEDICINE

Santa Fe Seminar

Carcinoma of the Thyroid Page 449

Stokes-Adams Attacks

Resuscitated with Closed Chest Cardiac Massage Page 460

Benzphetamine in the Management of Obesity

Complicated by Cardiovascular Disease Page 463

COMPLETE CONTENTS ON PAGE 440

October, 1961

VOL. 42, NO. 10



which curve is longer?



Fascinating . . . how one curved figure seems to be longer than the other—even when you know they're both the same.

Two oral penicillins can be just as difficult to compare. If only the price of the drugs were to be considered, the choice would be clear. But isn't it what a drug *does* that counts?

V-Cillin K[®] achieves two to five times the serum levels of antibacterial activity (ABA) produced by oral penicillin G.¹ Moreover, it is highly stable in gastric acid and, therefore, more completely absorbed *even in the presence of food*. Your patient gets more dependable therapy for his money . . . and it's therapy—not tablets—he needs.

For consistently dependable clinical results

prescribe V-Cillin K in scored tablets of 125 and 250 mg.

V-Cillin K, Pediatric, in 40 and 80-cc.-size packages. Each 5 cc. (approximately one teaspoonful) contain 125 mg. (200,000 units) penicillin V as the crystalline potassium salt.

V-Cillin K[®] (penicillin V potassium, Lilly)

1. Griffith, R. S.: Antibiotic Med. & Clin. Therapy, 7:129, 1960.

133273

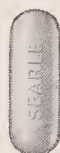
Product brochure available; write Eli Lilly and Company, Indianapolis 6, Indiana.



NEW
B. I. D.
DOSAGE



*only one
lasts all day*



*only one
lasts all night*



PRO-BANTHINE P.A.[®]

(BRAND OF PROPANTHELINE BROMIDE)

PROLONGED-ACTING TABLETS—30 mg. Effective • Convenient • Sustained Action

PRO-BANTHINE[®], the leading anticholinergic, is now available in a distinctive prolonged-acting dosage form.

The prolonged action of new PRO-BANTHINE P.A. is regulated by simple physical solubility. Each PRO-BANTHINE P.A. tablet releases about half of its 30 mg. promptly to establish the usual therapeutic dosage level. The remainder is released at a rate designed to compensate for the metabolic inactivation of earlier increments.

This regulated therapeutic continuity maintains the dependable anticholinergic activity of PRO-BANTHINE all day and all night with only two tablets daily in most patients.

New PRO-BANTHINE P.A. will be of particular benefit in controlling acid secretion, pain and discomfort both day and night in ulcer patients and in inhibiting excess acidity and motility in patients with peptic ulcer, gastritis, pylorospasm, biliary dyskinesia and functional gastrointestinal disorders.

Suggested Adult Dosage: One tablet at bedtime and one in the morning, supplemented, if necessary, by additional tablets of PRO-BANTHINE P.A. or standard PRO-BANTHINE to meet individual requirements.

G. D. SEARLE & CO.
CHICAGO 80, ILLINOIS
Research in the Service of Medicine

Southwestern Medicine

*The U. S.-Mexico Regional Medical Journal Serving West
Texas, New Mexico, Arizona, Nevada and Northern Mexico*

Official Journal of

The Southwestern Medical Association, The Western Association of
Railway Surgeons, The Southwest Obstetrical and Gynecological
Society, The Southwestern Dermatological Society, Texas
District One Medical Association, The Southwestern
New Mexico Medical Society, and El Paso County
Medical Society

EDITOR.....Lester C. Feener, M.D.
404 Banner Building, El Paso, Texas

MANAGING EDITOR.....Louis W. Breck, M.D.
1220 North Stanton Street, El Paso, Texas

ASSOCIATE EDITORS
Branch Craige, M.D. Maurice P. Spearman, M.D.

ADVERTISING AND SUBSCRIPTION OFFICES
Mott, Reid & McFall
Publishers
310 N. Stanton St., El Paso, Texas
Publication Office
265 Texas St., Fort Worth, Texas
Subscription Price \$5.00 — Single copies 50c
Published Monthly

VOL. 42 OCTOBER, 1961 NO. 10

BOARD OF MANAGERS

Sherwood Burr, M.D.	Leland Evans, M.D.
Harold J. Beck, M.D.	Darwin Neubauer, M.D.
David Russek, M.D.	Carlos Tapia, M.D.
M. D. Thomas, M.D.	Louis W. Breck, M.D.
John Dettweiler, M.D.	H. D. Garrett, M.D.
Russell L. Deter, M.D.	Jack A. Bernard, M.D.
Louis G. Jekel, M.D.	Morton H. Leonard, M.D.
John F. Wanless, M.D.	

Gordon M. Marshall — National Advertising Representative
30 West Washington Street, Chicago, Ill., Dearborn 2-5148;
Eastern Office — John H. Hinse, Room 340, 15 West 44th Street
New York 36, Oxford 7-5262.

Second-class mail privileges authorized at Fort Worth, Texas
Postmaster: All undeliverable copies returnable under Form 3579
should be to Southwestern Medicine, 310 North Stanton Street,
El Paso, Texas.



Providence Memorial Hospital

The Modern Hospital of the Southwest

APPROVED BY THE JOINT COMMISSION ON ACCREDITATION OF HOSPITALS

COMPLETE DIAGNOSTIC and TREATMENT FACILITIES
ISOTOPE THERAPY AND STUDIES COBALT 60 ROTATIONAL THERAPY UNIT
OUTSTANDING CHEMISTRY LABORATORY
FACILITIES FOR PSYCHIATRIC THERAPY ELECTROENCEPHALOGRAPHIC LABORATORY
2001 North Oregon Street • El Paso, Texas



*once again,
an active
hand in
"doing"—*

PABALATE®



mutually potentiating nonsteroid antirheumatics

"superior to aspirin"² and with a "higher 'therapeutic index'"¹

When sodium should be avoided—

PABALATE®-SODIUM FREE

When conservative steroid therapy is indicated—

PABALATE®-HC

Pabalate with Hydrocortisone

1. Barden, F. W., et al.: J. Maine M. A. 46:99, 1955.

2. Ford, R. A., and Blanchard, K.: Journal-Lancet 78:185, 1958.

In each yellow enteric-coated PABALATE tablet:

Sodium salicylate (5 gr.)
0.3 Gm.

Sodium para-aminobenzoate
(5 gr.) 0.3 Gm.

Ascorbic acid 50.0 mg.

In each pink enteric-coated PABALATE-SODIUM FREE tablet:

Same formula as PABALATE, with sodium salts replaced by potassium salts.

In each light blue enteric-coated PABALATE-HC tablet:

Same formula as PABALATE-SODIUM FREE, plus hydrocortisone (alcohol) . . . 2.5 mg.

Making today's medicines with integrity . . . seeking tomorrow's with persistence.

A. H. ROBINS COMPANY, INC., RICHMOND 20, VIRGINIA



limits the blood pressure swing

Rautrax-N lowers high blood pressure gently, gradually . . . protects against sharp fluctuations in the normal pressure swing.

Rautrax-N offers all the advantages of Raudixin, Naturetin and potassium chloride in a single dosage form *plus: increased efficacy* — Combined action of Raudixin and Naturetin results in a potentiated antihypertensive effect greater than that produced by either drug alone. *increased safety* — Potentiated action permits lower dose of other antihypertensive agents, thus reducing severity of side effects. Protection against possible potassium depletion. *flexibility* — Interchangeable

with either Raudixin or Naturetin *ē K. economy* — Maintenance dosage of only 1 or 2 tablets daily for most patients. *convenience* — Once-a-day maintenance dosage. Two potencies available.

Supply: Rautrax-N — capsule-shaped tablets providing 50 mg. Raudixin, 4 mg. Naturetin and 400 mg. potassium chloride. *Rautrax-N Modified* — capsule-shaped tablets providing 50 mg. Raudixin, 2 mg. Naturetin and 400 mg. potassium chloride.



Rautrax-N*

Squibb Standardized Whole Root Rauwolfia Serpentina (Raudixin) and Bendroflumethiazide (*Naturetin) with Potassium Chloride

For full information,
see your Squibb
Product Reference
or Product Brief.

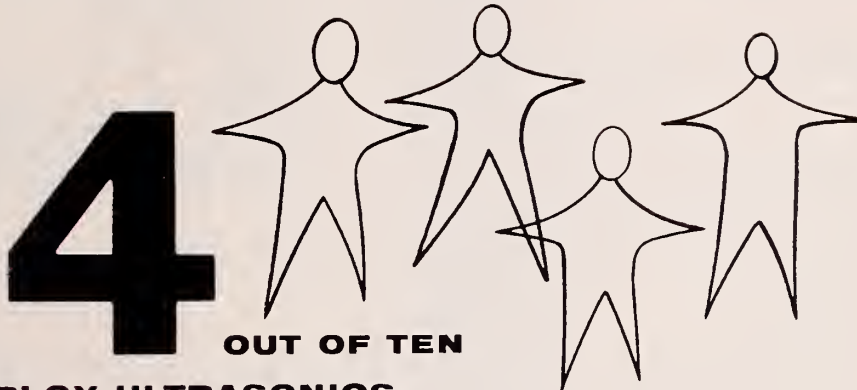
SQUIBB

Squibb Quality

— the Priceless Ingredient



*RAUDIXIN®, *RAUTRAX® and *NATURETIN® ARE SQUIBB TRADEMARKS.



4 OUT OF TEN EMPLOY ULTRASONICS

According to a survey recently conducted by a leading Medical Journal, more than 40% of all U. S. Physicians now have and employ ultrasonic therapy equipment in their offices. This is approximately the same percentage that have ECG and X-Ray! More than 2,000,000 cases prove the value of ultrasonic therapy in the treatment of . . .

**BURSITIS • ARTHRITIS • SINUSITIS • HERPES ZOSTER
• SCLERODERMA • DUPUTREN'S CONTRACTURE • BELL'S
PALSY • WHIPLASH INJURIES • STRAINS • SPRAINS, ETC.**

These and scores of other conditions are being routinely treated with ultrasonics. More than 3,000 papers have been published on the results of ultrasonic therapy, almost universally indicating preference over other methods.

YOURS FOR THE ASKING — To assist you in obtaining the latest data on medical ultrasonics, The Birtcher Corporation has prepared, and will send you on request, an album of before and after case photographs plus a 64-page book "Medical Ultrasonics in a Nutshell."

FOR A DEMONSTRATION AND ADDITIONAL INFORMATION — CONTACT YOUR LOCAL SUPPLIER

IN ALBUQUERQUE

Allied Medical Supply, Inc.
1506 Central Avenue, S. E.
Albuquerque, New Mexico
CH 2-4795

IN TUCSON

Arizona Medical Supply Company
1027 East Broadway
Tucson, Arizona
MA 3-7481

IN PHOENIX

Allied Medical Supply of Arizona, Inc.
3633 West Orange Avenue
Phoenix, Arizona
YE 7-2831

IN LUBBOCK

Hunter Hospital Supply
814 Avenue Q
Lubbock, Texas
PO 5-9426

IN AMARILLO

Hunter Hospital Supply
617 West 7th Street
Amarillo, Texas
DR 3-3701

B BIRTCHER
One quarter century
of honest value —
Sincerely Presented

Phone your ECGs — ^{T.M.}PHONATRACE is coming — watch for it.

New approach to acne



pHisoHex[®] and pHisoAc[®] Cream

"No patient failed to improve" when pHisoHex (containing 3 per cent hexachlorophene) was added as the antibacterial wash to the standard treatment for acne. pHisoHex provides not only superior cleansing but also **continuous** antibacterial action for patients with acne. Now, with new pHisoAc keratolytic cream the management of patients with acne is simplified and even more effective. pHisoAc is applied topically once or twice daily to suppress and mask lesions and to dry, peel and degerm the skin. When used together, pHisoHex and pHisoAc are a potent complementary combination against acne.

Winthrop LABORATORIES
New York 18, N. Y.

1. Hodges, F.T.: GP 14:86, Nov., 1956.

pHisoHex and pHisoAc, trademarks reg. U. S. Pat. Off.

Q
U
A
L
I
T
Y



P
A
P
E
R
S

EXAMINATION TABLE ROLLS

All Sizes Available

Smooth and Crepe Paper

PROFESSIONAL TOWELS

Best Quality Cellulose

White and Green

ASK YOUR SUPPLIER FOR TIDI.

TIDI PRODUCTS are always of best quality,
uniform, and economical in use.

Distributed throughout the USA

M'd. by TIDI PRODUCTS, Pomona, California



**NEW
IROMIN-G**

No Fish Oils
No Disagreeable
Odor

- Hematinic
- Therapeutic Vitamins
- Essential Minerals

Mission PHARMACAL CO.
SAN ANTONIO, TEXAS

in the wide middle region of pain

Percodan®

Salts of Dihydrohydroxycodone and
Homatropine, plus APC)

TABLETS

fills the gap
between
mild oral and
potent parenteral
analgesics¹⁻⁷

- acts in 5-15 minutes
- relief usually lasts
6 hours or longer
- toleration excellent...
constipation rare
- sleep uninterrupted
by pain

Each Percodan® Tablet contains
4.50 mg. dihydrohydroxycodone
HCl, 0.38 mg. dihydrohydroxy-
codeinone terephthalate (warning:
may be habit-forming), 0.38 mg.
homatropine terephthalate,
224 mg. acetylsalicylic acid,
160 mg. acetophenetidin, and
32 mg. caffeine.

*for fast and
thorough
pain relief*

AVERAGE ADULT DOSE

1 tablet every 6 hours; may
be habit-forming.
Federal law permits
oral prescription.

Also Available

For greater
flexibility in dosage —
Percodan®-Demi: The complete
Percodan formula, but with
only half the amount of salts of
dihydrohydroxycodone
and homatropine.

1. Blank, P., and Boas, H.: Improved
analgesia for moderate pain, *Ann. West.
Med. & Surg.* 6:376, 1952.
2. Bonica, J. J.,
et al.: The management of postpartum
pain with dihydrohydroxycodone
(Percodan). Evaluation with codeine and
placebo, *West. J. Surg.* 65:84, 1957.
3. Cass, L. J., and Frederick, W. S.:
A controlled study in pain relief, *M. Times*
84:1318, 1956.
4. Chasko, W. J.: Pain-free
dental surgery. Postoperative extension
of the pain-free state, *J. District of
Columbia Dent. Soc.* 31:3, No. 5, 1956.
5. Cozen, L.: *Office Orthopedics*, ed. 2,
Philadelphia, Lea & Febiger, 1953, pp. 120,
138, 145, 156, 234.
6. Nicolson, W. P., Jr.,
and Skandalakis, J. E.: Control of postopera-
tive pain, *J.M.A. Georgia* 46:471, 1957.
7. Piper, C. E., and Nicklas, F. W.: Percodan
for pain in industrial practice, *Indust. Med.*
23:510, 1954; abstracted, *Clin. Med.* 3:1008, 1956,
Current M. Digest 22:135, No. 3, 1955.

Endo® ENDO LABORATORIES
Richmond Hill 18, New York

*U.S. Pats. 2,628,185 and 2,907,768

Contents

Santa Fe Seminar — Carcinoma of the Thyroid St. Vincent Hospital, Santa Fe Program Chairman: Harry D. Ellis, M.D. Introduction: Philip L. Schultz, M.D. Presentation of Cases: Fred Soldow, M.D. Discussion: Sidney C. Werner, M.D.	Page 449
Stokes-Adams Attacks; Resuscitated with Closed Chest Cardiac Massage By Karl H. Shipman, M.D., and Prem Lakra, M.B.B.S., Denver	Page 460
Postgraduate Course to be Presented	Page 462
Benzphetamine in the Management of Obesity Complicated by Cardiovascular Disease By L. L. Kay, M.D.; S. Printz, M.D.; M. S. Robinson, M.D.; and J. Tendler, M.D., New York	Page 463

Coming Meetings

Southwestern Medical Association, 43rd Annual Meeting, Tropicana Hotel, Las Vegas, Nev., Oct. 19-21, 1961.

The University of Texas M. D. Anderson Hospital and Tumor Institute, Sixth Annual Clinical Conference, Cancer of the Genito-Urinary Tract, Texas Medical Center, Houston, Oct. 20-21, 1961.

Southwest Obstetrical & Gynecological Society, Eleventh Annual Meeting, Konakai Club, San Diego, Oct. 29-31, 1961.

University of Texas Postgraduate School of Medicine, El Paso Division, Postgraduate Course, Gastroenterology, El Paso County Medical Society Turner Home, 1301 Montana Ave., El Paso, Nov. 19, 1961.

University of Colorado Medical Center, Eighth Annual General Practice Review, Denver, Jan. 7-13, 1962.

STAFF PHYSICIAN

Accredited 249 bed hospital, thoracic diseases,
general medicine and surgery,
State approved Rehabilitation Center.

Starting salary \$766/\$817.


If experienced in general surgery,
starting salary \$913/965.

Modern furnished house for family included.

TULARE-KINGS COUNTIES HOSPITAL

Springville

California



Inflammation Takes Flight

Tandearil®

brand of oxyphenbutazone

**a new
development
in nonhormonal
anti-inflammatory
therapy**

Geigy

Remarkably useful in a wide variety of inflammatory conditions, including: rheumatoid arthritis, spondylitis, osteoarthritis¹⁻⁶; gout,^{1,7,8}; acute superficial thrombophlebitis^{9,10}; painful shoulder (peritendinitis, capsulitis, bursitis, and acute arthritis of that joint)^{1,7}; severe forms of a variety of local inflammatory conditions.^{11,12,13}

The physician should be thoroughly familiar with the dosage, side effects, precautions and contraindications of Tandearil before prescribing.

Full product information available on request.

more specific than steroids—Acts directly on the inflammatory lesion without altering pituitary-adrenal function...without impairing immunity responses.^{11,14}

more dependably absorbed than enzymes—Tandearil, a simple, non-protein molecule, is rapidly and completely absorbed,^{4,16} consistently providing effective blood levels.

far more potent than salicylates—

Anti-inflammatory potency of Tandearil markedly superior to aspirin.^{2,15}

availability:

Round, tan, sugar-coated tablets of 100 mg. in bottles of 100 and 1000.

Geigy Pharmaceuticals

Division of Geigy Chemical Corporation
Ardsley, New York

references:

1. Graham, W.: *Canad. M. A. J.* **82**:1005 (May 14) 1960.
2. Vaughn, P. P.; Howell, D. S., and Kiem, I. M.: *Arth. and Rheumat.* **2**:212, 1959.
3. O'Reilly, T. J.: *J. Irish M. A.* **46**:106, 1960.
4. Cardoe, N.: *Ann. Rheumat. Dis.* **18**:244, 1959.
5. Robichaux, E.: *General Practice* **24**:14, 1961.
6. Brooke, J. W.: *Western Med.* **2**:81, 1961.
7. Connell, J. F., Jr., and Rousselot, L. M.: *Am. J. Surg.* **98**:31, 1959.
8. Brodie, B. B., et al., in *Contemporary Rheumatology* 1956, p. 600.
9. Stein, I. D.: *Ann. N. Y. Acad. Sc.* **86**:307 (March 30) 1960.
10. Barczyk, W., and Röth, W.: *Praxis* **49**:589, 1960.
11. Miller, J. M., et al.: *Antibiotic Med. and Clin. Therap.* **7**:109, 1960.
12. Connell, J. F., Jr., and Rousselot, L. M.: *Am. J. Surg.* **97**:429, 1959.
13. Summary of individual case histories submitted to Geigy.
14. Domenjoz, R.: *Ann. N. Y. Acad. Sc.* **86**:263, 1960.
15. Smyth, C. J.: *Ann. N. Y. Acad. Sc.* **86**:292, 1960.
16. Yü, T. F., et al.: *J. Pharmacol. and Exper. Therap.* **123**:63, 1958.



a more effective,
more pleasant
way to treat
dry...itchy skin

Alpha-Keri®

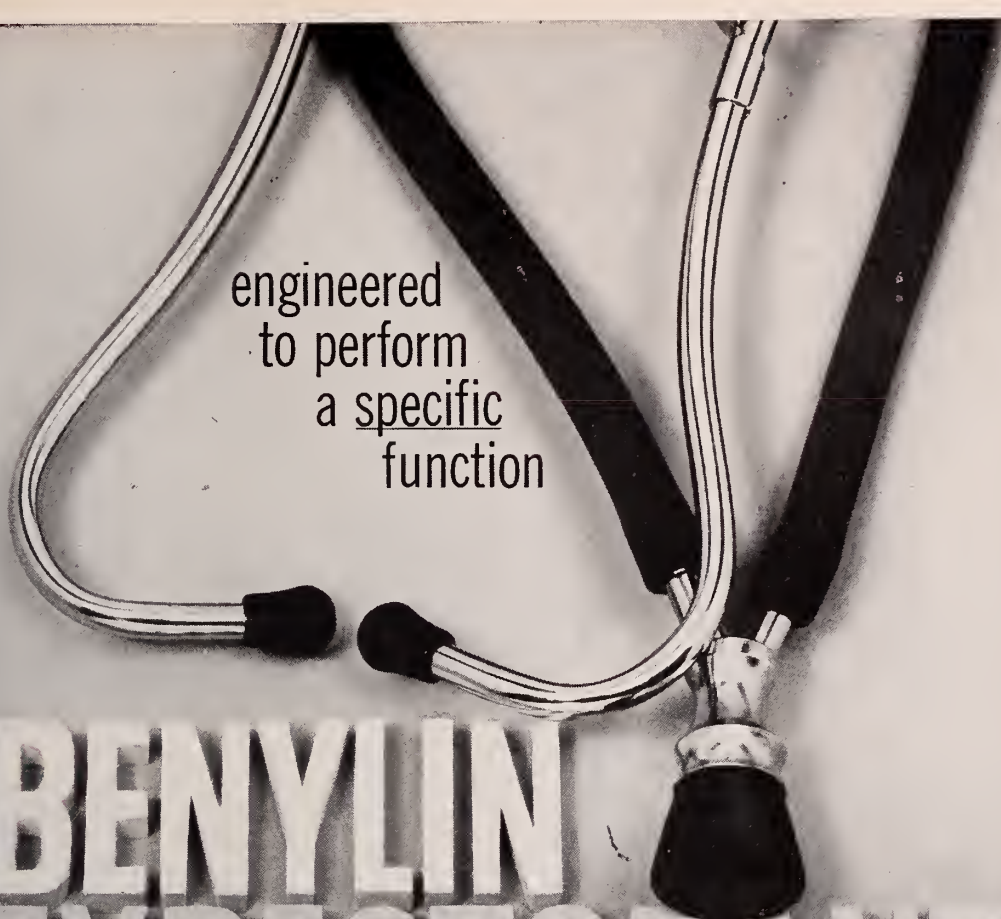
*water dispersible, antipruritic oil
for the bath or shower*

Alpha-Keri makes dry skin feel soft and smooth immediately . . . soothes the skin and stops itching. Alpha-Keri deposits a microfine, lubricant-moisturizing oil film over the entire skin area . . . hydrating the keratin and preventing it from drying out. It is particularly effective in replacing the action of skin lipids lost by the dehydrating effects of soap, water and weather. Alpha-Keri may be added to the bath or sponged on the wet skin while showering.

Alpha-Keri is the first and only completely water-dispersible, antipruritic oil combining mineral oil and a keratin moisturizer. Contains Kerohydric® (brand of dewaxed, oil-soluble, keratin-moisturizing fraction of lanolin), mineral oil and a special nonionic emulsifier. Alpha-Keri disperses immediately and completely in water. Available in bottles of 8 fl. oz.

Write for samples and literature.

WESTWOOD PHARMACEUTICALS, BUFFALO 13, NEW YORK



engineered
to perform
a specific
function

BENYLIN EXPECTORANT

specifically designed to help control cough

Just as a medical instrument is engineered for maximum efficiency in performing its specific function, BENYLIN® EXPECTORANT is formulated to provide effective relief of cough associated with colds or allergy.

The outstanding antitussive action of BENYLIN EXPECTORANT is attributed to a combination of carefully selected therapeutic agents. Benadryl®, a potent antihistaminic-antispasmodic, reduces bronchial spasm, quiets the cough reflex, and lessens nasal stuffiness, sneezing, lacrimation, itching, and other allergic manifestations. Concurrent respiratory congestion is relieved by expectorant agents that efficiently break down tenacious mucosal secretions. In addition, a demulcent action soothes irritated throat membranes.

59961

BENYLIN EXPECTORANT is a pleasant-tasting, raspberry-flavored syrup...completely acceptable to patients of all ages.

supplied: BENYLIN EXPECTORANT is available in 16-ounce and 1-gallon bottles.

Each fluidounce contains: 80 mg. Benadryl Hydrochloride (diphenhydramine hydrochloride, Parke-Davis); 12 gr. ammonium chloride; 5 gr. sodium citrate; 2 gr. chloroform; 1/10 gr. menthol; and 5% alcohol. **Indications:** Relief of coughs due to colds, other symptoms associated with colds, and coughs of allergic origin. **Dosage:** Adults—1 to 2 teaspoonfuls every three to four hours. Children—1/2 to 1 teaspoonful every four hours. **Precautions:** Products containing Benadryl should be used cautiously with hypnotics or other sedatives; if atropine-like effects are undesirable; or if the patient engages in activities requiring alertness or rapid, accurate response (such as driving).

PARKE-DAVIS

PARKE, DAVIS & COMPANY, Detroit 32, Michigan

WHAT DISTINGUISHES DEVEREUX

in its service to children who need remedial education? It furnishes —

1. Group living and learning experience with others of a similar aptitude and level of development.
2. The functioning of a multidisciplinary team with long experience in evaluating potential and in structuring programs in a residential setting unique in its wide range of homogeneous groupings.
3. A philosophy of optimum blending of traditional methods with the best of the new from the frontiers of research.
4. Established programs of diagnosis, treatment, research, and training soundly based on the wide spectrum of a multidisciplinary team of experts.

Serving the East Coast, Devereux Schools are located at Devon, Pennsylvania (Mr. Charles J. Fowler, Director of Admissions); serving the West Coast, Devereux Schools at Santa Barbara, California (Mr. Keith A. Seaton, Registrar); and serving the Southwest, Devereux Schools at Victoria, Texas (Mr. John M. Bercloy, Director of Development). Your inquiries are welcomed.

THE DEVEREUX FOUNDATION

A nonprofit organization
Founded 1912
Devon, Pennsylvania
Santa Barbara, California
Victoria, Texas

SCHOOLS
COMMUNITIES
CAMPS
TRAINING
RESEARCH

HELENA T. DEVEREUX
Administrative Consultant

EDWARD L. FRENCH, Ph.D.
Director



rhinall nose drops

Samples on
request.

**In Nasal Decongestant Therapy
when effective shrinkage
is desired in treating
Colds • Sinusitis
Allergic Rhinitis**



- Rapid and prolonged action
- Small dosage—well tolerated
- Physiological rationale

Contains:

Phenylephrine Hydrochloride 0.15%,
'Propadrine' Hydrochloride 0.3%
In an Isotonic Saline Menstruum.

Prescribed by
physicians for
over 25 years.

RHINOPTO COMPANY 3905 Cedar Springs • Dallas, Texas

**Where's
the arthritic
this
morning?**



**Thanks to
Medrol
Medules,
he woke up
comfortable
and he's
already
on the go.**

The first long-acting oral steroid, Medrol Medules gives the arthritic patient therapeutic action that continues through the night. In many cases, morning stiffness can become a thing of the past.

The slow, steady release of methylprednisolone often provides greater effectiveness, with less frequent administration and sometimes a reduced total daily dosage.

Many of your arthritic patients, too, can wake up comfortable on Medrol Medules.

Dosage: The following dosages are recommended in rheumatoid arthritis:

	<i>Initial</i>	<i>Maintenance</i>
Severe	12 to 16 mg.	6 to 12 mg.
Moderately severe	8 to 10 mg.	4 to 8 mg.
Moderate	6 to 8 mg.	2 to 6 mg.
Children	6 to 10 mg.	2 to 8 mg.

With Medrol Medules, it may be possible to reduce the total daily dose by $\frac{1}{2}$.

Indications and effects: Medrol benefits (anti-inflammatory, antiallergic, anti-rheumatic, antileukemic, antihemolytic) have been demonstrated in acute rheumatic carditis, rheumatoid arthritis, asthma, hay fever and allergic disorders, dermatoses, blood dyscrasias, and ocular inflammatory disease involving the posterior segment.

Precautions and contraindications: Because of Medrol's high therapeutic ratio, patients usually experience dramatic relief without developing such possible steroid side effects as gastrointestinal intolerance, weight gain or weight loss, edema, hypertension, acne, or emotional imbalance.

As in all corticotherapy, however, there are certain cautions to be observed. The presence of diabetes, osteoporosis, chronic psychotic reactions, predisposition to thrombophlebitis, hypertension, congestive heart failure, renal insufficiency, or active tuberculosis necessitates careful control in the use of steroids. Like all corticosteroids, Medrol is contraindicated in patients with arrested tuberculosis, peptic ulcer, acute psychoses, Cushing's syndrome, herpes simplex keratitis, vaccinia, or varicella.

Approximately 135
tiny "doses"
mean smoother steroid
therapy

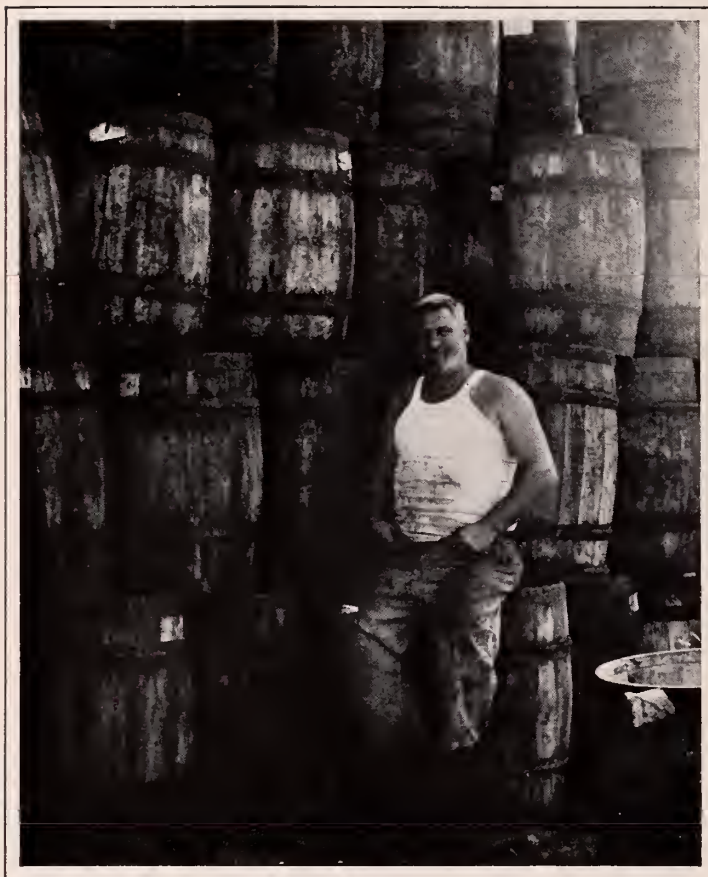
Each capsule contains: Medrol
(methylprednisolone) 2 mg. or 4 mg.
Supplied in bottles of 30 and 100.

**Medrol^{*}
Medules^{*}**

Upjohn 75th year

*TRADEMARK, REG. U.S. PAT. OFF. COPYRIGHT 1961, THE UPJOHN COMPANY JUNE, 1961 THE UPJOHN COMPANY, KALAMAZOO, MICHIGAN

How to use *Trancopal*[®] Brand of chlormezanone for painful muscles



He needs his muscles working properly—
when they aren't, he needs

Trancopal

When a muscle is strained, it goes into a spasm that produces pain; this is followed by more spasm for splinting, and then more pain.

When you prescribe Trancopal, you break this vicious cycle and relieve the patient's discomfort. Trancopal will ease the spasm and consequently the pain, and its mild tranquilizing effect will make the patient less restless. You can then start him on purposeful exercise or physical therapy.

In addition to its usefulness in syndromes resulting from overtraining (such as low back pain or tennis elbow), Trancopal will relax the spasm and pain that are features of torticollis, bursitis, fibrositis, myositis, ankle sprain, osteoarthritis, rheumatoid arthritis, disc syndrome and postoperative muscle spasm. Trancopal is available in 200 mg. Caplets[®] (green colored, scored) and in 100 mg. Caplets (peach colored, scored), bottles of 100.

Dosage: Adults, 1 Caplet (200 mg.) three or four times daily; children (5 to 12 years), from 50 to 100 mg. three or four times daily.

Winthrop LABORATORIES
New York 18, N.Y.

1626M

Carcinoma of the Thyroid

ST. VINCENT HOSPITAL, Santa Fe

May 23, 1961

Program Chairman: HARRY D. ELLIS, M.D.

Introduction: PHILIP L. SHULTZ, M.D.

Presentation of Cases: FRED SOLDOW, M.D.

Discussion: SIDNEY C. WERNER, M.D.

Introduction: Philip L. Shultz, M.D.

Our subject for discussion this evening is carcinoma of the thyroid. In many other entities we have made significant advances in standardization of our therapeutics, but here there are many differences. Let us attempt to clarify some of these this evening.

Everyone admits the occasional presence of unsuspected carcinoma in nontoxic nodular goiter. The percentage varies from four per cent to 17 per cent or more. These are surgical specimens and this wide variance may reflect surgical indications, inclusion of recurrent lesions and/or the geographic influences of endemic goiter. Solitary nodules are more suspect than multinodular glands. Nodular goiter in men is more often carcinomatous than in women, although nodular goiter is certainly more prevalent in women.

Children demonstrate a frightening 25 per cent to 40 per cent incidence of malignancy in nodular goiter. A substantial number of these give a history of having received X radiation at some prior time in the region of the neck and anterior mediastinum.

It seems reasonable to classify carcinoma of the thyroid in a manner that correlates both clinical and histologic characteristics, and so with an apology for over-simplification, let us consider:

I Potentially functional

- a. Papillary
- b. Follicular — including malignant adenoma
- c. Mixed

II Non Functional including

- a. Solid carcinoma and anaplastic carcinoma with the group of squamous, sarcoma, and lymphoma included.

The diagnosis is much too easy and much too late when we see a patient with a hard nodular goiter and lateral nodes in the neck. So we must be suspicious of all nodular goiters with increasing suspicion toward the younger age groups, the solitary nodules, the hard nodules and those recently developing.

While toxicity markedly reduces the possibility of coincident carcinoma, it is not unknown and must not be disregarded.

Scintigrams may be helpful in outlining cold spots and estimating the initial uptake potential of the gland for I-131. Obviously the diagnosis is a histologic one and occasionally a very difficult one. I do not feel that needle biopsy has much place here. Some groups report its use to good advantage but when you remember the tiny focus of carcinoma that may be present, in a large multinodular gland, who would believe a negative biopsy.

Few physicians will protest the justification for routine removal of essentially all solitary breast nodules on the rationale of carcinoma case finding; exactly the same arguments apply to solitary thyroid nodules. Multinodular toxic goiters should similarly be respected like nontoxic goiters except perhaps a long standing static goiter in an elderly patient.

The operative procedure of choice for a solitary nodule is nothing less than a lobectomy and should be a lobectomy and subtotal resection of the opposite lobe if the isthmus is involved.

Frozen section may give a definite diagnosis of carcinoma and definitive steps are then possible.

If a frozen section diagnosis is unobtainable or inconclusive and there are no obvious metastatic nodes, simply close and wait for a fixed paraffin section.

Let us consider a few hypothetical situations: A solitary nodule has been removed by lobectomy and found to be a papillary or mixed carcinoma — there are no gross nodal metastases.

I feel that a total thyroidectomy and modified neck dissection on the involved side is indicated because as many as 85 per cent of cases of papillary carcinoma will show positive nodes. The ra-

tionale of total thyroidectomy rests upon the high frequency of multicentric foci in the gland, whether due to intraglandular metastases or multiple primary lesions. Also, total thyroidectomy is of value if we anticipate the use of I-131 later, therapeutically.

A case with grossly involved lymph nodes necessitates radical neck dissection, occasionally bilateral.

A low grade in situ lesion in an adenoma and some of the Hurthle cell carcinomas, may be treated by lobectomy alone.

Distant metastases in papillary and follicular carcinoma do not contraindicate radical local surgery as I-131 may then be used to advantage after a course of thyroid stimulating hormone.

Postoperative maintenance dosages of desiccated thyroid are not only necessary replacement therapy in the totally thyroidectomized patient, but seem also to act as a suppressant to thyroid tumor growth.

The anaplastic carcinomas present a much more depressing picture. Surgical resection offers the best chance of cure, but the course is frequently distressingly rapid; I-131 offers nothing and external irradiation is not much better.

The slow growth and frequently rather innocuous early course of many thyroid carcinomas and the resultant excellent "five year cures" with conservative therapy, are frequently used as arguments against more extensive early surgery in the papillary and follicular carcinomas. Long term follow-ups may well prove the fallacy of this and I personally favor a more aggressive surgical approach toward thyroid cancer.

Richard M. Angle, M.D.

Thank you very much Doctor Shultz. Our case presentations this evening will be given by Doctor Fred Soldow. Dr. Soldow.

Case Presentation: Fred Soldow, M.D.

Case #1. This 60 year old widow was hospitalized at St. Vincent Hospital on 6/2/58, with a chief complaint of difficulty in breathing. She had consulted her local physician four months previously because of a mass in her neck. Her physician aspirated about one pint of bloody fluid from the mass. The mass recurred shortly thereafter, and subsequent aspirations obtained only small amounts of bloody fluid. Two months prior to this hospitalization, she was hospitalized for six weeks

because of pneumonia from which she gradually recovered.

Physical examination at this admission revealed a blood pressure of 140/80 mm Hg., temperature 100 degrees, pulse 110 and respirations 30 per minute.

The patient appeared well developed and well nourished, but in acute respiratory distress. She used her accessory respiratory muscles in breathing and demonstrated soft tissue retraction in the subcostal areas during inspiration. In the neck there was a large tumor mass, hard and fixed, occupying the region of the thyroid and extending beyond it. There were hard nodules palpated along the left side just anterior to the border of the sternocleidomastoid muscle. The remainder of the physical examination was uninforming.

A tracheotomy was performed 6/5/58, and a biopsy of the tumor mass was obtained at this time. Pathological report: Anaplastic carcinoma, thyroid. The patient was dismissed to a nursing home 6/19/58 and palliative x-ray therapy was begun.

She returned 7/12/58, complaining of progressive weakness and anorexia. Examination revealed a marked reduction in tumor size. A few days following this admission the patient developed progressive difficulty in swallowing. A tracheoesophageal fistula developed. Her hospital course became progressively downhill. She expired 7/31/58. Permission for autopsy was denied.

Pathology: Robert B. Hilley, M.D.

This is a photomicrograph of the carcinoma which is seen in the upper two thirds of the photograph (Figure 1). It is extending into the adjacent more normal thyroid. The follicles you see are residual normal thyroid. The tumor is composed of fairly large anaplastic cells as the descriptive diagnosis of the tumor indicated. There is no attempt to form acini or papillary structures.

This is a less common variety of thyroid carcinoma. Most of these fall into one of two general types, one being composed of very small diffusely infiltrating cells which may resemble lymphoma and, indeed, may make quite a diagnostic problem for the pathologist. The other main group of anaplastic thyroid carcinomas is the giant cell type and these are very rapidly growing tumors. This particular carcinoma lies somewhere in between the giant cell and diffuse small cell types, and

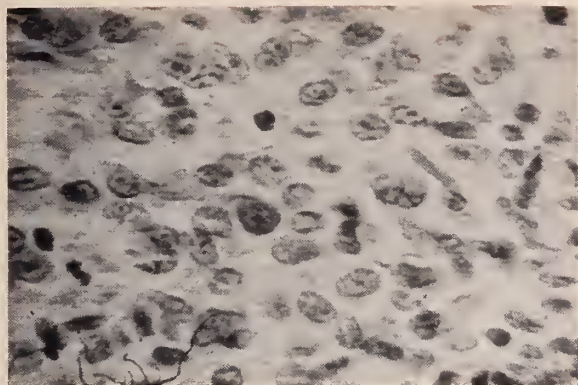


Figure 1
Anaplastic Thyroid Carcinoma

hence, as an anaplastic carcinoma is a rather uncommon sort of uncommon tumor.

Dr. Angle:

Thank you Dr. Hilley. At this time it is my pleasure to introduce to you our guest speaker, Dr. Sidney C. Werner. Dr. Werner is an Associate Professor of Clinical Medicine at Columbia University and is Chief of the Endocrine Clinic of the Presbyterian Hospital in New York City. Dr. Werner is also the editor and co-author of a book which is well known to most of us, "The Thyroid." Dr. Werner.

Discussion: Sidney C. Werner, M.D.

In order to discuss these patients, it occurred to me that I might jot down some notes and then discuss them rather than make a formal presentation.

A patient such as this with an anaplastic tumor always raises the question as to whether or not one can be sure the tumor arose from the thyroid. If it did, we would place this tumor in Group III; and I might interject a word about classification of thyroid tumors under the guidance of Dr. Virginia Frantz. She has proposed that the less active tumors of the papillary and follicular type be called group I. Then there is an in-between group where the pathologist makes an educated guess that it is more rapidly growing and will be more aggressive than the group I tumors, and this constitutes group II. In the group II category the tumor histology is still usually recognizable.

The third group, group III, is a very fulminating group with undifferentiated cells histologically, quite hopeless, as a rule, therapeutically. The present case would belong in the third group.

The question that comes up in this latter group, of course, is whether one could have been fooled by an anaplastic tumor, especially with evidence of intra-vascular metastases, that had metastasized to the thyroid from some other site, such as the lung, breast, or colon, etc. Here one would have an invasive tumor which implanted itself in the thyroid from elsewhere, replaced the thyroid, and give the appearance of being a fast growing primary tumor of the thyroid. There are about 10 such cases if not more, in the Presbyterian Hospital files.

You have not presented information about an x-ray of the chest although I presume one was taken.

Murray M. Friedman, M.D.

The chest was clear as near as one could tell in a portable film.

Dr. Werner:

The other things I think one might have done would have been to get x-rays of the bony skeleton, a serum alkaline phosphatase, and a sedimentation rate to see whether this tumor extended beyond the areas of the neck.

One other question I wanted to ask before I continue. This mass that was noted in the neck prior to her hospitalization here, I take it was the first time that something had been discovered in her neck. Had she known of any previous nodules or a goiter before the time she was seen four months ago?

Harry D. Ellis, M.D.

It is not known whether she had a preceding nodule or goiter before this tumor was noted by her family physician four months ago.

Dr. Werner:

Sometimes an anaplastic carcinoma such as this one represents the termination of the course of nodular goiter. One example we saw just a little less than a year ago was in a man who had had a nodular goiter for some 40 or 50 years. He then developed a pain in his chest. His chest x-ray was normal as was his sedimentation rate and the pain was attributed elsewhere to intercostal neuralgia or something to do with the spine. Shortly thereafter a mass did appear in his chest by x-ray, and he succumbed in something less than 2 or 3 months.

Although there was a great deal of discussion

pathologically, it was finally felt that the lung lesion was metastatic from his thyroid. The thyroid was considered to be the site of a group III carcinoma which had ultimately come from and replaced, a nontoxic nodular goiter.

The next point of interest in connection with this case is the question of why was such an enormous amount of fluid present in the neck initially. I tried to envisage a pint of fluid distributed around the neck and had trouble doing so. I discussed this with Dr. Lawrence Sloan, our senior thyroid surgeon, and he felt he had seen almost as much as this from bleeding but he and Dr. Robert Elliott, to whom I also spoke, both agreed that this amount was quite unusual.

At any rate, once the fluid was drained, it did not recur and one assumes that there had been a hemorrhage resulting from tumor erosion of a blood vessel. One wonders why the patient did not become short of breath and show signs of tracheal compression, assuming that the effusion of red cells was rapid.

Ultimately, this patient required a tracheotomy; a biopsy of the tumor was performed; and an anaplastic carcinoma was identified. This raises the question, I think, as to whether this patient had, say, a papillary tumor for many years which converted at the end stage of the disease to an undifferentiated, highly malignant carcinoma. Could this have happened?

There is evidence that thyroid tumors may change character pathologically as shown some years ago by Dr. Brown Dobyns. He did a very ingenious experiment in which he made intra-ocular transplants of thyroid tumor tissue. With an intra-ocular transplant such as this, antibodies can't reach the implanted tissue and they can grow in a relatively uninhibited manner very much like in the hamster's buccal pouch where human tumors grow.

Dobyns observed these tumor transplants and found that they did indeed change their morphology to more and lesser degrees of undifferentiation. Thus it would seem theoretically possible that a tumor such as in the present case may have had a quite different histological appearance prior to the terminal one. It should be said, however, that changing morphology of tumors in clinical medicine is unusual. I think that Dr. Ellis would agree to this.

After biopsy, the patient received x-ray therapy, developed a tracheo-esophageal fistula and died. A tracheo-esophageal fistula is a rather rare complication and this would seem to be another unusual feature of this case.

Aside from x-ray therapy could anything else have been done medically? I think you might be interested in the figures of our own hospital in which Dr. Frantz summarized our experience with testosterone for treating this group of very malignant tumors. Dr. Frantz included in this study both group II and group III tumors.

It had been shown previously by Dr. Frantz that group I, the papillary and follicular tumors, could be influenced favorably by testosterone. Unexpectedly, though, the most malignant group was affected in one out of three patients. There was astonishing relief of symptoms and pain. There was some benefit in the other two, also.

One of my patients, a male, recently was given testosterone and as was expected without benefit. He was then given estrogen, also without effect. We might suppose that the present patient might have possibly been given some relief of her symptoms with testosterone; at least it is a method to consider.

The other drug which might conceivably have been used (there has been a little trial of this), is one of the nitrogen mustards, in view of the rapid growth of this type of tumor. My own experience with this agent is limited to one patient I am aware of in whom no benefit developed.

In summary then I have tried to bring out something of the life history of group III tumors; the fact that it may be superimposed on nontoxic nodular goiter or be the end result of a papillary tumor; that the amount of hemorrhage noted in this particular tumor is unusually large; that the development of a tracheo-esophageal fistula is unusual; and that medical treatment with testosterone in a female such as this might be worth trying.

Case Presentation: Dr. Soldow:

Case #2. This 27 year old housewife was hospitalized at St. Vincent Hospital 5/23/57, with a chief complaint of a lump in the right side of her neck. This had been present for about one year and had increased only slightly in size during this time. There were no other symptoms.

Physical examination was negative except for the presence of a one and one-half to two cm. hard nodule in the right lobe of the thyroid which seemed somewhat fixed to the thyroid cartilage. A scintiscan revealed no activity in the cervical lymph node or substernal areas. There appeared to be a slight depression of activity in the mid-portion of the right lobe of the thyroid.

On 5/24/57, the nodule in question was removed. Pathology Report: Papillary and follicular carcinoma of the thyroid with multicentric foci.

On 6/14/57, block dissection of the residual right thyroid lobe and isthmus was carried out. Pathological Report: Residual carcinoma in remnants of right lobe with infiltration to excised margin of the inferomedial surface of specimen.

X-ray therapy was given to the thyroid area from June 13th to Sept. 10th. A total dose of 4945 Roentgens was delivered.

The patient has remained well to date without evidence of tumor recurrence (four years). She delivered a normal baby 6/30/60.

Pathology: Dr. Hilley:

A major portion of this tumor was of a type which forms follicles. I believe this tumor would be placed in Group I as outlined by Dr. Werner, although near the periphery of the tumor the cells become more malignant looking. This is a section (Figure 2) of skeletal muscle adjacent to the thyroid gland and you can see that there is considerable pleomorphism of invading tumor cells. This, of course, makes the diagnosis of carcinoma of the thyroid quite easy.

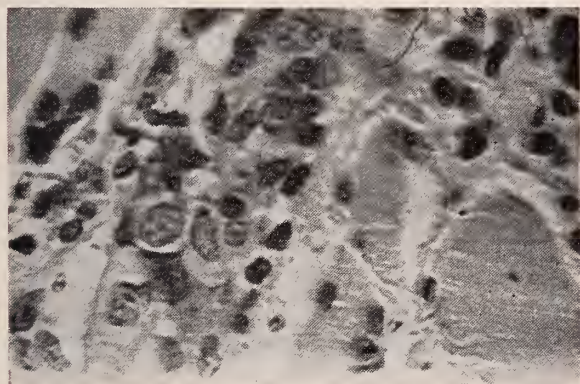


Figure 2

Thyroid Carcinoma Invading Muscle

Invasion of muscle is usually a reliable feature. Grossly, of course, one can be misled. A surgeon can be misled by a condition like Riedel's struma

which may be quite densely adherent to the surrounding structures. This condition has an interesting characteristic which is that on section it is extremely firm. In fact it is more firm than the average carcinoma.

A toxic gland may be somewhat adherent to surrounding structures but there is really no problem there. Invasion of the capsule in a thyroid neoplasm is of some help in the diagnosis of malignancy but it is very easy to get confused in the matter of whether fibrous tissue is growing around cells that were already there, or whether the cells are actually invading the fibrous tissue. The best help is vascular invasion and in this case there is unequivocal vascular invasion (Figure 3). You can see in this photomicrograph an epithelial lined vascular structure with a nest of tumor cells within it.

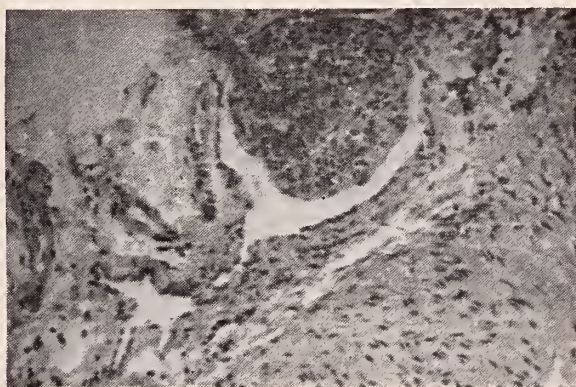


Figure 3

Vascular Invasion

Discussion: Dr. Werner

This case describes a 27 year old housewife who developed a tumor which is described as a solitary hard nodule. One point which is important to bear in mind is that thyroid cancer will not always be hard. Perhaps as many as a quarter of such tumors may be firm to soft and therefore unless there is a high index of suspicion, such a nodule may be passed by.

The next point, that the nodule was fixed to the thyroid cartilage puzzles me a bit. Usually when tumors are invasive and where the neoplastic process spreads beyond the thyroid into the surrounding tissue, what happens is that the trachea becomes fixed and therefore doesn't move well with deglutition. Normally the thyroid is "fixed" to the thyroid cartilage although it is quite true one can demonstrate some motion over the cartilage.

At any rate, the tumor was there, the scintiscan revealed no activity in the region beyond the gland, and there was slight decrease in activity in the region of the tumor. This raises the question of the value of a scintiscan or putting it another way, what are the sources of error from a scintiscan? A tumor which is supposedly inactive, namely which has lost the ability to take up radioactive iodine, may not necessarily be "cold."

If the nodule is so covered by surrounding or overlying or underlying normal or abnormal tissue which is active, it may not be possible to recognize that the tumor is not picking up I-131. Another pitfall is the fact that cancers may be microscopic in juxtaposition with a large nodule of nontoxic goiter; and then it is found after removal that the large suspicious nodule was harmless enough but there near it is a small carcinoma.

Contrariwise, a nodule may be "warm" or active and yet the scintigram may appear relatively "cold". Thus most of us have come to feel that the scintiscanning procedure is attractive and it makes a nice picture to look at, but that most of the time, its weight in the final appraisal of the patient is quite limited.

In any event, the nodule was removed. As Dr. Shultz said, and quite rightly, one must do more than remove only the nodule. I really think one should do a lobectomy in such a case. If there is a malignancy, the procedure has then some therapeutic value as well as avoiding risk of spreading the tumor or seeding it. If the nodule is not a cancer, the opposite lobe is certainly more than adequate to take care of the needs of the patient. At the Presbyterian Hospital, we invariably prefer a lobectomy to biopsy of the nodule.

Pathologically this was a mixed tumor, papillary and follicular. Due to the use of radioactive iodine, the concept of "pure" follicular or "pure" papillary tumors has undergone alteration. Almost a majority of metastases from papillary tumors have been shown to have follicular components. The follicular tumors however have not been so commonly shown to develop papillary components.

Following the diagnosis and the finding that there were multicentric foci of tumor, a block dissection of the right side was done but the left side was left intact. I spoke to my surgical colleagues

about this, because we believe that with multicentric foci, a great majority of such patients also will have tumor in the opposite lobe. Therefore to operate on one side and leave the other side intact is not really giving the patient every chance for elimination of the tumor.

Therapy replacement by thyroid hormone is remarkably satisfactory and we feel that by doing a total thyroidectomy and finding another focus of tumor we have done the patient a service. Whereas if there doesn't happen to be another focus the patient is not very much worse off except for having to take thyroid pills.

Following the second operation, x-ray therapy was given to a total of five thousand roentogens. It would be interesting to know what the effect of that amount of x-ray will be in terms of cure.

The patient has remained well for a period which would now be four years.

This raises the question as to when to appraise the results of treatment of papillary thyroid tumors. Given four years of satisfactory life since operation and having even produced a baby in these four years, does this mean this patient is definitely cured?

I think all students of this disease now grant that in younger people the overall life history of this disease probably is thirty or forty years. Therefore, appraisals made before ten years at least are probably meaningless. So we cannot really say anything about cure for this patient and we don't know what the ultimate outcome will be.

I would like to mention another advantage to total thyroidectomy, and that is that an excess of endogenous thyrotropic hormone results. If there is any residual tumor tissue and if this has follicular components, then its avidity for I-131 is increased and I-131 can then be given therapeutically.

If only a hemi-thyroidectomy is done, then any I-131 that might be given therapeutically will collect almost entirely in the intact remaining thyroid lobe. To give I-131 therapeutically, a dose that will ablate the remaining thyroid tissue must be administered first, to permit uptake in metastases.

Recently, as Dr. Shultz mentioned, thyroid has been used as suppressive medication, on the grounds that thyroid tumors may depend on thyro-

tropic hormones for their growth. Thyroid hormone suppresses the pituitary and eliminates thyrotropic secretion.

It may well be asked whether this therapy would be necessary when the patient has a thyroid lobe remaining? Perhaps the question really is: Is a normal or euthyroid level of thyroid secretion adequate to suppress the tumor remnant or is a level in the hyperthyroid range necessary? There has been enough experience now to say that many of these tumors are suppressed at euthyroid levels but it is generally better to maintain the level in the hyperthyroid range.

Case Presentation: Dr. Soldow

Case No. 3. This 12 year old girl was hospitalized at St. Vincent Hospital 5/26/61, with a chief complaint of a lump in the neck. This had been noted for about one year. Examination revealed a smooth, firm nodule, 20 mm in diameter, in the left thyroid lobe. No lateral nodes were palpable. The remainder of the examination, including a chest x-ray was negative.

The day following admission, the left lobe of the thyroid was excised and frozen section examination revealed papillary and follicular carcinoma. The remainder of the thyroid, except for the posterior capsule of the right lobe, was resected, and the peritracheal and pretracheal lymph nodes were removed, the dissection extending into the superior mediastinum.

Examination of the excised specimen revealed, in addition to the primary lesion, metastases in a node adjacent to the superior pole of the left thyroid lobe and metastases in seven of 12 pretracheal and peritracheal lymph nodes.

Patient was placed on desiccated thyroid on release from the hospital and this medication has continued to date. The patient is living and well without evidence of tumor at the present time (three years).

Pathology: Dr. Hilley

This is an excellent example of an almost pure papillary lesion of the thyroid, (Figure 4). There are a few scattered follicular components. Nearly all, virtually all papillary neoplastic lesions of the thyroid are malignancies. The benign purely papillary neoplastic lesion is an extremely rare entity.

There are a few degenerative conditions of the thyroid which are manifestations of involution or

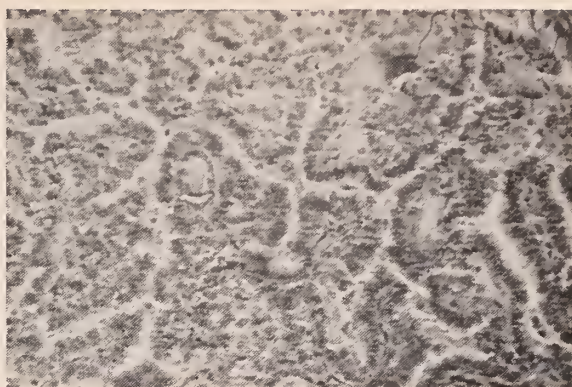


Figure 4
Papillary Carcinoma

hyperplasia such as one may see in a nodular goiter in which there may be a papillary element, but these do not represent true papillary neoplasias. There is one characteristic seen in this tumor that is seen in many papillary thyroid carcinomas which is extremely helpful in the diagnosis. This is the small calcific spherule or psammoma body. These are small calcific structures that are virtually pathognomonic of thyroid carcinoma. There are many in this tumor of varying size. They occur in other tumors in the body, notably in certain tumors of the ovary.

Discussion: Dr. Werner

A thyroid cancer at age 12 immediately raises the question of antecedent exposure of the thyroid to radiation effect. There seems to be little doubt that this predisposes to subsequent malignancy in the young thyroid gland in contrast to the more adult thyroid gland which is resistant. Did this patient have some previous x-ray therapy?

Dr. Shultz:

This patient had x-ray therapy to her anterior chest and neck for a acneform skin condition five years prior to the development of the thyroid nodule.

Dr. Werner:

Five years is a little early but I presume that radiation effect could still be the causative factor. The thyroidal radiation dose received by some of these cases has been very small.

The tumor in this case at the time of its discovery was of fair size, two centimeters. The patient had a normal chest x-ray so that there was no evidence of pulmonary spread of tumor. In this case the tumor was excised as a left lobectomy

and a frozen section was done. Frozen section is not always reliable and not infrequently the patient must be sent from the operating room to await the results of permanent sections before a final decision can be made as to the operation of choice.

In this case following the frozen section a total thyroidectomy was done except for the posterior capsule of the right lobe and a number of lymph glands were removed. Subsequently, seven of 12 nodes examined were found to contain metastases.

Following surgery the patient was placed on thyroid medication and this again raises the question of adequacy of dosage. One must not interfere with growth and development at this age although amounts that will be effective are desirous. Another question which might be discussed is whether or not every child should be subjected to operation because of a nodule in the thyroid.

Solitary nodules in the adult are as a rule currently treated with thyroid for a limited time, say two to four months. If there is no response then they are operated upon in our institution. However, the situation is different in children for the simple reason that in children nodular goiter is extremely rare. The incidence of nodular goiter increases with age and doesn't assume a peak until after age 40. Thus in children, there are few other possibilities besides cancer when there is a nodule in the thyroid.

One possibility, of course, is chronic thyroiditis. Even here, there may be an increased incidence of cancer in thyroiditis. The Presbyterian Hospital figures reveal about one per cent association whereas at the Mayo Clinic about four per cent of their cases of thyroiditis are associated with thyroid carcinoma. Thyroiditis is a rare disease so that the risk of a nodule in a child being cancerous is still the most likely and exploration and pathologic examination seem preferable to medical therapy.

Having operated on such a nodule, having found it a group I cancer, and having done a total thyroidectomy with a radical neck dissection, then we believe that desiccated thyroid is in order as a suppressive therapy with a dependent tumor of this nature, as was done. The time of three years follow-up is hardly enough to know what the outcome will be.

Case Presentation: Dr. Soldow

Case No. 4. This 12 year old boy was hospitalized at St. Vincent Hospital 6/4/58, with a chief complaint of swelling of the neck. This had been developing for about one year. The swelling was asymptomatic and the child was otherwise in good health.

Examination revealed a large nodular mass in the thyroid area and palpable firm nodules along the lateral margins of both sternocleidomastoid muscles. No other abnormal physical findings were noted. The clinical impression was that of lymphoma of the neck.

The chest x-ray revealed extensive bilateral small nodular densities compatible with diffuse metastatic neoplasm. A scintigram revealed multiple punched out areas in the thyroid region.

On 6/5/58, a biopsy of the neck mass was taken. Frozen section was reported as carcinoma of the thyroid. A large lateral lymph node was removed and the operation terminated.

Pathological report revealed: Papillary and follicular carcinoma in the biopsy specimen and secondary papillary carcinoma in the removed lymph nodes.

X-ray therapy to the thyroid gland was given from 6/9/58 to 7/25/58 the total delivered dose being 4800 Roentgens.

The patient was readmitted 8/12/58, and examination revealed marked reduction in the size of the thyroid mass and persistence of the lateral nodules. The nodules were movable.

On 8/13/58, a total thyroidectomy was carried out and a bilateral radical neck dissection done which included dissection of the superior mediastinal lymph nodes. One parathyroid gland was left.

Pathological examination revealed papillary and follicular carcinoma of the thyroid with metastases in the lateral cervical, peritracheal, and mediastinal lymph nodes.

The postoperative course was complicated and stormy due to obstruction of the tracheotomy tube, pneumonia and latent tetany, (serum calcium 7.1 mg./100 ml. gradually rising to 9.0 mg./100 ml.). Ultimately the patient recovered and was discharged 8/30/58. At the time of discharge there was about 20 per cent clearing of the nodular extradensities in the lung fields and subsequent x-rays to the present time have demonstrated persistence of these pulmonary shadows.

The child was placed on two gr. of desiccated thyroid at the time of x-ray therapy and this has continued to date.

In the two and three-fourths years since discharge from the hospital, the patient has grown and developed normally and has undertaken all normal activities.

Pathology: Dr. Hilley

There was very little to see in the sections of this tumor that was different from the previous case, except for predominance of the follicular pattern. There was comparatively little colloid in the follicles; a few of the cells were rather large and oxyphilic but this was not an oxyphilic or Hurthle cell tumor. There were some papillary areas which were not particularly prominent but very definitely present.

Discussion: Dr. Werner

This patient is a 12 year old boy and of course one would like to know again whether there had been any previous x-ray therapy.

Dr. Shultz:

There was no history of previous x-ray therapy in this case.

Dr. Werner:

Well I think the important point in this patient is the fact that he had metastases to his lungs without any surgical interference, whatsoever, with the tumor. This is rather unusual and Doctor Astwood has stated that he has never seen a real example of spread of a papillary thyroid carcinoma without antecedent operation. However, there is no doubt that the process had spread in this patient, and there seems to be no doubt at the present time that the patient is still doing reasonably well.

In this case frozen section was done, then x-ray therapy was given and finally he was readmitted and total thyroidectomy carried out. I am a little puzzled as to why the operative procedure was not carried out before the x-ray therapy.

Dr. Shultz:

The tumor mass and the involved lymph nodes and thyroid seemed totally fixed on initial examination. We felt that the patient was technically inoperable prior to x-ray therapy. After x-ray therapy there was a striking reduction in the size of the mass and there was considerable increase

in mobility so that we felt that we could then operate.

Dr. Werner:

That certainly is a valid reason. Some such tumors melt away and become discreet and readily operable whereas before they were hopelessly inoperable.

The patient had the usual complications of some of the more severe operations, having developed hypoparathyroidism and required tracheotomy. Fortunately there was no laryngeal nerve involvement.

When he was discharged I was surprised that there was some "clearing" in his chest x-ray. Such clearing is a phenomenon that is not frequent in this disorder but is not unheard of. Was there anything done to account for the apparent clearing in the chest x-ray? Had the patient been started on thyroid prior to this?

Dr. Shultz:

He was placed on thyroid medication during the time of x-ray therapy and was continued on this from that time.

Dr. Werner:

Well that could explain the apparent clearing of the x-ray film in that some of these tumors do shrink under thyroid medication as thyrotropic hormone output is suppressed. I have seen cervical lymph glands that were enlarging disappear soon after the administration of thyroid. Dr. Colin Thomas has had considerable experience and has reported that about two thirds of such tumors stayed quiescent or improved under thyroid medication, about a third or some such percentage escaped after prolonged suppression.

One wonders in a patient like this where one is planning on giving thyroid as suppressive therapy, whether it might not be a good idea beforehand to give I-131 in tracer doses to see what the retention might be in the lungs. In this way, one could gain some idea of the possibilities of success in giving I-131 therapeutically should thyroid therapy fail. Was this done in this case?

Dr. Shultz:

Dr. Clarence Lushbaugh did thyroid uptake studies on this patient one and a half to two years after the surgery using the whole body counter.

Dr. Clarence Lushbaugh:

This patient had a three to six percent uptake

in the whole body counter on the two times that I examined him. This means that he had some residual thyroid activity.

Dr. Werner:

Was this residual activity probably in the lungs?

Dr. Lushbaugh:

Yes, we felt that it was.

Dr. Werner:

This finding would indicate sufficient I-131 uptake to make I-131 therapy feasible if needed. The ratio between the tissue radiation dose and the radiation dose to the blood must be favorable or else I-131 cannot be employed. A six percent uptake is good and I would be hopeful that I-131 might be successful should the patient escape thyroid suppression.

I would like to say a word more at this point about dependent tumors, that is tumors that depend on a hormone for their continued growth. Such an example is a breast carcinoma, where it is thought that estrogen is necessary for this tumor to grow. A better example is prostatic carcinoma where testosterone is thought to be necessary. In the breast, efforts have been made to try to eliminate body estrogens and in the case of carcinoma of the prostate, to eliminate testosterone.

We have had a strain of mouse pituitary tumor with which we have worked, which is rather interesting because it can be completely suppressed by giving thyroxine. If this tumor is implanted into the leg of a mouse it will lie there dormant for a year under thyroid medication. But if the thyroid therapy is stopped, the tumor will start to grow.

In one of the strains after about a year and two months, to our surprise, the tumor began to grow even in the face of continued thyroid suppression. In other words, there was an actual escape, either by mutation of the tumor or by some other mechanism, so that it was no longer suppressed by the concentration of thyroxine present. This would be an experimental corollary to what Dr. Thomas and others have seen clinically, where after a successful period of suppression, the tumor may escape and start to grow again.

I would like to mention two patients who illustrate the difficulties in appraising what one is accomplishing with therapy. First is a girl of 22

when she was first found to have a papillary tumor of the thyroid in 1955. The chest x-ray was negative. She then underwent a right lobectomy and a radical neck dissection, and by 1956 had developed tumor on the left side of the neck and pulmonary metastases. She was placed on large doses of liothyronine. Her cervical nodes disappeared and her lung lesions became stationary.

In 1958, the chest film showed that she had had a spread throughout the lung fields. From then on, spread seemed to come in waves. At the present time, in 1961, five years after we started treating her, her neck masses are becoming palpable again.

The second patient I would like to mention was first seen in 1936 and did not have the benefit of thyroid therapy. She had very obvious lung metastases in 1936. Thirteen years later there had been some increase in the chest shadows but the patient remained in good general health. In 1954 there had been a series of advances in the chest densities but still the patient remained in good clinical condition.

The point I am trying to make is that one cannot predict too well the effects of suppressive therapy in view of the life history of these tumors which may be one of spontaneous decreases and increases proceeding over a period of many years. I am sure all are aware of the remarkable results that have occurred in lung cancer, breast cancer and prostatic cancer with nothing other than placebo therapy. This would seem to be a very interesting area for research.

One point not discussed as yet is the role of needle biopsy. Most clinicians including Dr. Crile are agreed that they would not like to put a needle into a nodule known to be cancerous. In fact, needle biopsy has largely fallen out of favor except in those instances where operations are refused and where one would like to confirm a rather definite diagnosis of thyroiditis. The fear of missing a cancer, as Dr. Shultz mentioned and the fear of seeding along the needle track if a cancer has been entered are very practical reasons for not doing this procedure.

Another point which should be discussed is the question whether or not papillary carcinoma of the thyroid does really eventually kill the patient. In other words, why is there a controversy about surgical therapy? Would it perhaps not be wise to treat all of these medically?

I think Dr. Frantz' figures are of some interest in respect to this question. Of 216 patients followed for more than ten years with thyroid cancer, there were 126 with papillary tumor. Out of that number, 92 were accounted for after ten years; 25 had died and nine were lost to follow-up before 10 years. Of those living over 10 years, five died of this disease between 10 and 14 years. Two more died at 17 and 20 years, with the disease but not because of the disease.

The rest are either living with disease or are dead without disease. It can be seen from this that 27 percent of patients had disease that could not be controlled, and the disease is not as innocuous as most workers are gradually getting to believe. Papillary tumors do kill, as the figures point out.

Follicular disease is more lethal and of the 26 of 51 patients living over 10 years, five more were dead of disease between 10 and 22 years and three more were dead with disease between 11 and 19 years. Thus, disease was uncontrollable in 67 percent.

In the group II tumors, eight of the 15 died before 10 years, but, surprisingly enough three are alive as much as 18 or 19 years post-operatively.

So much then for the fact that thyroid cancer does kill. The other question that is important in this respect is the question of the "pathologist's cancer". Dr. Frantz likes to speak of "pathologist's cancer" as a cancer which is diagnosed by the pathologist, where the patient lives on apparently indifferent to the diagnosis. Of course she raises the very good argument that since the tumor is under the microscope, it is conceivable that the patient was cured by the operation.

Also, she points out that the location of such tumors is usually sub-capsular, in a situation where the tumor is more or less occult. She is thus inclined to believe that these tumors are real cancers and she feels therefore, that when there is a "pathologist's cancer" that a paraglandular dissection should be carried out anyway.

In summary then, I have tried to bring out a number of points related to thyroid cancer; the fact that it is not always primary in the thyroid but may be metastatic cancer from elsewhere in the body; that children with the disease have often had antecedent radiation therapy, but that radiation exposure in adults does not seem to be fol-

lowed by thyroid carcinoma and that testosterone may be of some benefit in adult thyroid cancer in the female.

We mentioned something about the limitations of scintiscans diagnostically, the fact that most papillary thyroid tumors are mixed, that the histology may change rarely, the fact that papillary tumors can be lethal, and finally that total thyroidectomy is useful when one is contemplating subsequent I-131 therapy.

Discussion

Justin J. Wolfson, M.D.

The first question I would like to ask you Dr. Werner is in regard to radiation. The fourth patient had 4800 Roentgens which would certainly seem to be an adequate dose. I would like to ask the pathologist if he saw any evidence of radiation effects and I would like to ask you your feelings about radiation and the dosage of radiation.

Dr. Hilley:

In looking over the sections I was not impressed by radiation effects, but I was not looking specifically for them, so that I may have missed something. Radiation effects were not obvious, let me put it that way.

Dr. Werner:

I think this dosage is what might have been attempted but the difficulty at this level of dosage is with the skin and I'm a little surprised that this patient didn't have such difficulty. We now use a Betatron to deliver doses of this magnitude with rotation of the patient. Of course, this does protect the skin.

R. C. Derbyshire, M.D.

I have two or three questions that I would like to ask. First, you mentioned the use of testosterone in Group III carcinomas of the thyroid. I would like to know in how many cases you've tried it and the duration of relief in these cases?

Dr. Werner:

Two patients secured relief for long periods, one for six months, and one group III cancer for over a year. Three females in all were treated, but only the one had group III cancer. The one male with group III cancer so treated failed to respond.

Dr. Derbyshire:

I would like to comment on Case #2 in which block resection of the residual right thyroid lobe

and isthmus was carried out. A radical neck dissection was not done and the pathologic report and the slide we saw showed infiltration of the muscle with cancer. Would this increase your faith in x-ray therapy because of the fact that this patient has done well for four years or would you account this as a part of the natural course of the disease?

Dr. Werner:

I do not have much faith in x-ray therapy as a curative agent in this disease, myself. I do think that with I-131 there are some striking arrests of the progress of the disease.

Dr. Derbyshire:

My third question is do you feel that thyroid nodules may change? What I mean is if one finds a single nodule in the thyroid, do you feel it was always a cancer or might it have been an adenoma that became malignant? Do you feel that we are justified in telling a patient that one would like to

take a nodule out to keep it from becoming a cancer assuming that it is a benign adenoma?

Dr. Werner:

This is a very well taken question. I think in Group III cancers, where there has been long standing, non-toxic nodular goiter, it is possible that cancer may have arisen in the goiter as a result of many years of hyperplasia. The theory being that hyperplasia leads to neoplasia.

However, I think that thyroid cancer is usually a tumor from onset and probably has nothing to do with hyperplasia leading to neoplasia. Thus the peak incidence of thyroid cancer is before 40, of nodular goiter after that age.

Dr. Angle:

Dr. Werner we wish to thank you very much for conducting this seminar for us and we are grateful for your liberal use of your knowledge and experience. Our next seminar will be on "Ulcerogenic Tumor of the Pancreas".

Stokes-Adams Attacks

Resuscitated with Closed-Chest Cardiac Massage

KARL H. SHIPMAN, M.D., and PREM LAKRA, M.B.B.S., *Denver*

The emergency treatment of cardiac arrest has consisted primarily of attempts to stimulate the myocardium either by thumping on the chest, or by the percutaneous injection of various drugs into the right ventricular cavity. In the event of failure of these methods to restore the circulation, the only resort was open thoracotomy with direct manual compression of the heart. The results in these cases were often rewarding, although this method still left much to be desired, either because of complications inherent in the method or because of lack of effectiveness.

Recently, Kouwenhoven¹ and his group have demonstrated the effectiveness of external cardiac massage which obviates the necessity for open thoracotomy. A case is here presented where multiple episodes of Stokes-Adams attacks accompanied by ventricular fibrillation were managed successfully by applying the technique of closed chest massage, and, in some instances, combined with external defibrillation.

Case Report

P. H. #242448

A 74 year old white male was admitted to the medical service on January 14, 1961 for treatment of a chronic prostatitis, and evaluation of a pulmonary condition. Past history was not remarkable except for a coronary occlusion fourteen years prior. He had been in reasonably good health since. During this admission, a routine EKG was obtained which revealed a recent inferior wall myocardial infarction and a complete heart block. At this point, there was no history of Stokes-Adams attacks. The patient was anticoagulated, and after three weeks, was discharged to his home for further convalescence while awaiting definitive prostatic surgery.

On February 22, 1961, he was readmitted and three days later, a transurethral prostatectomy was performed. The post-operative course was uneventful until the tenth day, when a sudden loss of consciousness, with a grand mal, tonic-clonic seizure occurred, lasting 45 seconds. Immediately

From the Department of Medicine, Presbyterian Hospital, Denver, Colorado.

following, he was without blood pressure, pulse or respirations. Within a two minute period, closed-chest cardiac massage was begun with return of blood pressure, pulse and respirations. After about four minutes, consciousness returned. An EKG obtained after this episode revealed essentially no change, the complete A-V block was still present with an idio-ventricular rate of 48. It was felt that this episode represented a Stokes-Adams seizure.

The patient was continuously monitored after this by means of an electrocardiograph connected to an oscilloscope. Approximately seven hours later another seizure occurred. This time the electrocardiogram was seen during the seizure and revealed a rapid ventricular fibrillation. Again, closed-chest cardiac massage was instituted, and after four minutes, the original idioventricular rhythm returned, with associated return of blood

pressure, respirations, and consciousness. (See figure 1).

Over the next five days, a total of thirteen additional episodes of Stokes-Adams attacks occurred; all were associated with loss of pulse, blood pressure, consciousness and respirations, and all exhibited ventricular fibrillation of the EKG. In all of these instances, closed-chest cardiac massage was performed, successful. In three instances external defibrillation, using a countershock dose of 250 Volts on each occasion, was necessary to restore the original idioventricular rhythm. After the last episode of Stokes-Adams on March 12, 1961, the patient's clinical condition gradually deteriorated, and two days later, he expired in intractable congestive failure.

Discussion

The case presented here illustrates quite dra-

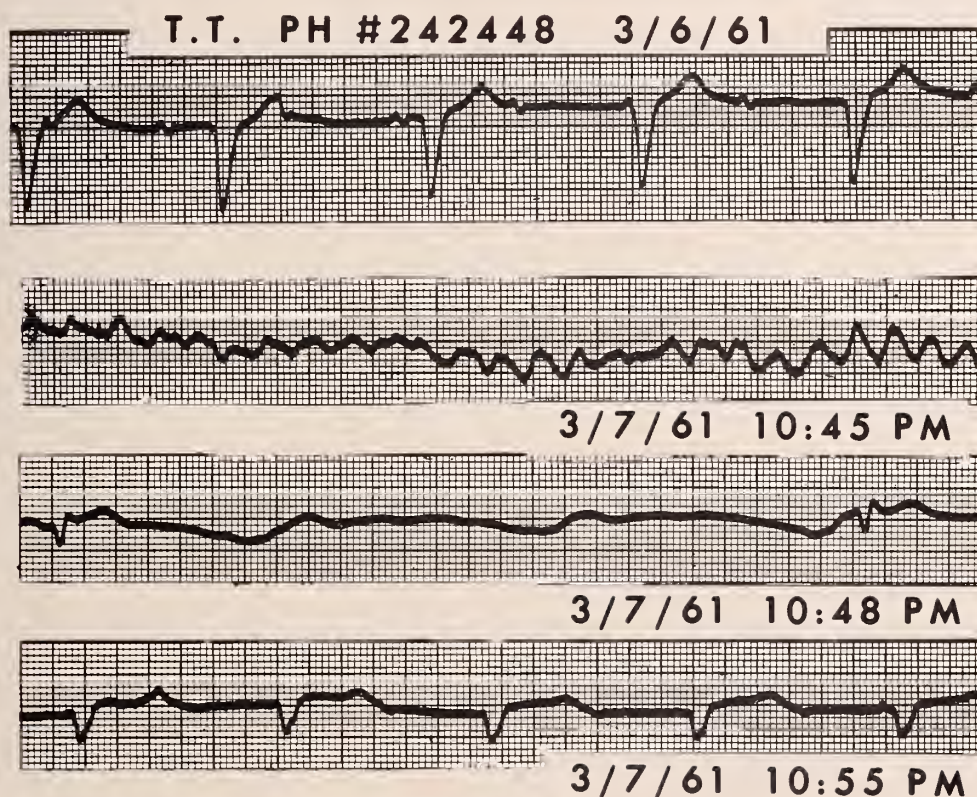


FIGURE NO. 1

Strip 1: Before Stokes-Adams attacks showing complete A-V dissociation.

Strip 2: Taken during typical attack of Stokes-Adams syndrome showing ventricular fibrillation.

Strip 3: After three minutes of closed chest massage, showing return of idioventricular pacemaker.

Strip 4: After ten minutes, return of original A-V dissociation with restoration of consciousness, blood pressure and respirations.

matically the effectiveness of the closed chest type of cardiac massage in resuscitation of cardiac arrest due to ventricular fibrillation. Effective blood pressures were maintained throughout massage as evidenced by a manometric blood pressure cuff inflated to 100 mm. Hg. pressure, and observing for undulations of the indicator needle. In the majority of attacks, an idioventricular rhythm developed spontaneously after approximately four to five minutes of external massage.

The explanation for this occurrence probably lies with the improved coronary blood flow and myocardial perfusion which resulted from restoration of an adequate hemodynamic system. The three occasions in which external defibrillation was necessary were instances in which external massage was not as promptly initiated and probably reflected a greater degree of myocardial anoxia than did the other episodes of ventricular fibrillation.

The technique used here was essentially that described by Kouwenhoven. External chest compression over the lower sternum in effect pumps the heart and initiates propulsion of blood. A rate of sixty to seventy strokes per minute was maintained, this being occasionally interrupted to allow for ventilation by either mouth to mouth or by a positive pressure breathing apparatus. Interestingly enough, no diverse effects were noted in several episodes of cardiac arrest when only one person was available for resuscitation and no supplemental oxygenation could be provided.

It was felt initially that an adequate quantity of air was exchanged by this method alone, but

the recent work of Safar et al.² in which virtually no tidal exchange could be measured in twelve patients with cardiac arrest given closed-chest cardiac massage, deems it necessary that an additional source of ventilation be utilized. It is thought to be important that the effectiveness of the massage be determined, either by another person monitoring the femoral pulsations or by applying a blood pressure cuff to the arm in the manner described.

Intracardiac adrenalin may be used in addition, especially if the heart is difficult to defibrillate, since it has been found³ that an actively fibrillating myocardium defibrillates easier than a heart with a poor fibrillatory quality. The use of vasopressors to maintain blood pressure and buffers such as sodium bicarbonate or molar sodium lactate to combat acidosis are also recommended.

Summary

A case is presented of a patient who manifested fifteen distinct attacks of Stokes-Adams syndrome, the underlying arrhythmia in each case was ventricular fibrillation. Closed-chest cardiac massage, by itself, was responsible for successful resuscitation in twelve of the attacks. In the other three episodes, external defibrillation was required in addition to restore an effective spontaneous heart beat.

Acknowledgment—We wish to express our gratitude to Dr. H. A. Bradford, Chief of Medicine, Presbyterian Hospital, Denver, for his assistance and advice.

References

1. Kouwenhoven, W. B.; Jude, J. R.; Knickerbocker, G. G.; Closed Chest Cardiac Massage, *J.A.M.A.* 173:1064-1067 (July 9) 1960.
2. Safar, Peter; Brown, T. C.; Holtey, W. J.; Wilder, R. J.; Ventilation and Circulation with Closed-Chest Cardiac Massage in Man, *J.A.M.A.* 176:574-576 (May 20) 1961.
3. Kouwenhoven, W. B., Personal Communication.

Postgraduate Course to Be Presented

A one-day postgraduate course on Gastroenterology will be given by the El Paso Division of the University of Texas Postgraduate School of Medicine in El Paso Sunday, Nov. 19, 1961. Sessions will be held in the El Paso County Medical Society's Turner Home at 1301 Montana Avenue.

9:00 a.m. Esophageal Varices

Hugh D. Bennett, M.D., Houston

9:40 a.m. Gastric Tumors

Tobert S. Nelson, M.D., Houston

10:30 a.m. Changing Concepts of Hepatitis

Ralph D. Eichhorn, M.D.,
Houston

11:10 a.m. Panel Discussion

Recent Tools for the Gastroenterologist.

2:00 p.m. Cirrhosis

Hugh D. Bennett, M.D.

2:40 p.m. Chemotherapy of GI Tumors

Robert S. Nelson, M.D.

3:30 p.m. Malabsorption Syndrome

Ralph D. Eichhorn, M.D.

4:10 p.m. Panel Discussion

Diagnosis of Unusual Liver
Pathology

Dr. J. Leighton Green, director, has announced that the Texas Academy of General Practice will grant Category I credit for the course.

Benzphetamine in the Management of Obesity Complicated by Cardiovascular Disease

L. L. KAY, M.D.*, S. PRINTZ, M.D., M. S. ROBINSON, M.D.**, J. TENDLER, M.D., *New York*

It has been well established that obesity penalizes the patient with cardiovascular disease in terms of morbidity and even mortality¹. Men with weights 20 pounds above average for their same ages, heights and body builds incur a penalty of about ten per cent higher mortality. Those 25 pounds overweight are subject to 25 per cent excess mortality.

Men 50 pounds above average are associated with an excess mortality of up to 50 or even 75 per cent. It has also been shown that when overweight and elevated blood pressure occur together, the mortality rise is much greater than for each condition separately. Fortunately, overweight persons when insured but who reduced successfully, enjoyed an immediate benefit of normal mortality which continued for at least ten years.

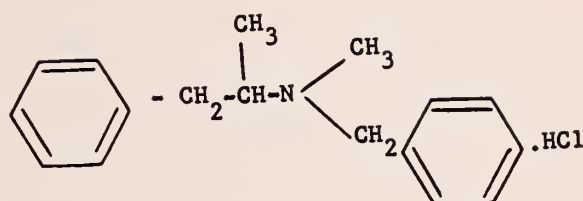
Management of the fat patient with cardiovascular disease may be more challenging than that for patients whose obesity is uncomplicated. Luckily the major factor in weight reduction, restriction in dietary intake of calories, is often the same for both. The common exception is salt restriction in patients in or on the verge of congestive failure.

Caloric expenditure through increased regular exercise, a valuable adjunct in treatment, may be inadvisable in patients with cardiovascular ailments. A third important measure is frequent encouragement and periodic "remotivation" of the patient by his physician. This should be perhaps even more important in the management of the patient with cardiovascular disease than in those with uncomplicated obesity.

In the former category it can clearly be shown that "reducing pays." And finally, the cardiologist must decide whether anorexiant drugs are likely to help his patients lose weight and, if so, which of the many available agents to use.

The drug chosen should have several attributes. Most importantly, it should suppress appetite safely. Sympathomimetic activity should be of a low order to avoid or minimize central nervous or cardiovascular system stimulation. Yet its anorexicogenic potency should be evident promptly. Activity should be sustained over weeks and months in order to give patient and physician ample time to modify permanently the old dietary habit pattern that resulted in overweight in the first place.

Modell² has recently expressed the opinion that it is unlikely that minor structural changes seen in newly developed amphetamine congeners will separate the effect on appetite from the other effects of the central stimulant action that may be clinically undesirable. Benzphetamine hydrochloride,* with the following structural formula, is obviously a member of this group:



Yet several reports have appeared, particularly those involving initial daily doses of 75 mg. or less, in which evidence of such a "split" has been noted³⁻⁶. It was the purpose of this investigation to attempt to obtain this highly desirable separation of anorexigenic from cardiovascular and central nervous system effects, with particular reference to the obese patient with cardiovascular disease.

Materials and Methods

Fifty obese patients from our practices or clinics with which we are affiliated were included. All were adults, ranging in age from 34 to 76 years. Twenty-two were men. In addition to obesity the following cardiovascular problems were represented:

*Clinical Assistant in Cardiology, Sydenham Hospital, New York.
**Assistant Physician, Harlem Hospital; Physician, Department of Health, Tuberculosis Clinic, New York.

*The Upjohn Company trade name is Didrex®.

<i>Diagnostic Category</i>	<i>Male</i>	<i>Female</i>	<i>No. Cases</i>
1. Essential hypertension	8	13	21
2. Hypertensive cardiovascular disease with coronary insufficiency	5	4	9
3. Malignant hypertension	4	4	8
4. Hypertensive cardiovascular disease, decompensated	2	3	5
5. Post-coronary occlusion	1	2	3
6. Arteriosclerotic heart disease, decompensated	1	1	2
7. Rheumatic heart disease, with mitral insufficiency and stenosis	1	1	2
	—	—	—
	22	28	50

All patients had pre-treatment chest teleroentgenograms and eight-lead electrocardiographic tracings as well as urinalyses and complete peripheral blood counts. Pilot renal and hepatic function tests were done from time to time and electrocardiographic tracings were taken as indicated for the management of the particular category.

Benzphetamine was used in conjunction with a 1,000-1,200 calorie diet, if in hospital (eight patients) or dietary instruction if or when patients became ambulatory (42 patients). Administration began with one or one-half 50 mg. tablet in mid-morning. Thereafter we frequently and carefully changed daily dosage whenever indicated in an effort to "tailor" each dosage regimen to be optimal for each patient. These optimal regimens have been shown in Table I.

The duration of treatment averaged 16.1 weeks (range: six to 26 weeks). During this time patients were seen daily, if in hospital, or at intervals of one or two weeks if ambulatory. Body weight was determined to the nearest quarter pound at each visit and indicated changes in medication were made, both for the management of the weight-reduction program and the particular cardiovascular problem involved.

Results

Weight Change

All but three patients lost weight; in a total of 31 weeks' treatment, they gained 8.25 pounds. The remaining 47 patients lost from six to 27.00 pounds. (See Table II.) Considering the entire 50 patients together, duration averaged 16.1 weeks, mean weight loss was 13.20 pounds per

Table I
Final, "Optimal" Dosage of Drug Given 50 Obese Patients with Concomitant Cardiovascular Disease

<u>No. of Patients</u>	<u>No. of Tablets</u>					<u>Per Day</u>			
	<u>1</u>	<u>1</u>	<u>1½</u>	<u>2</u>	<u>3</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
3	X						X		
16	X							X	
3	X								X
6		X					X		
11		X						X	
1		X							X
3			X				X		
2			X					X	
4				X			X		
1					X			X	

Table II

<u>Patient</u>	<u>Duration of Observation</u>	<u>Weight Loss</u>	<u>Weight Gain</u>
1	8 weeks	11.00	
2	12 "	20.50	
3	10 "	16.00	
4	16 "	17.00	
5	10 "	15.00	
6	16 "	16.00	
7	16 "	11.00	
8	8 "	0	3.75
9	20 "	16.00	
10	20 "	22.00	
11	26 "	16.00	
12	24 "	12.00	
13	12 "	8.00	
14	16 "	12.00	
15	24 "	14.50	
16	22 "	11.75	
17	16 "	11.00	
18	9 "	0	3.50
19	24 "	10.00	
20	20 "	9.00	
21	26 "	17.00	
22	26 "	6.50	
23	20 "	8.00	
24	18 "	11.00	
25	24 "	17.00	
26	12 "	8.75	
27	20 "	17.00	
28	12 "	10.50	
29	14 "	1.50	
30	24 "	6.00	
31	26 "	18.00	
32	16 "	13.00	
33	14 "	0	1.00
34	22 "	27.00	
35	20 "	22.50	
36	12 "	8.50	
37	18 "	6.00	
38	24 "	18.00	
39	24 "	21.00	
40	26 "	9.00	
41	16 "	11.00	
42	8 "	12.50	
43	6 "	10.00	
44	16 "	14.00	
45	20 "	12.00	
46	20 "	28.50	
47	20 "	19.00	
48	16 "	23.00	
49	8 "	10.50	
50	24 "	30.50	
805 weeks		-668.0	78.25
Net Weight Change.		-659.75	

patient or 0.82 pounds per patient per week. It is certain these last figures are somewhat too high, for the seven patients in congestive heart failure all mobilized considerable edema fluid in the early phase of therapy. It would, however, be difficult to estimate this poundage of water with accuracy, as may be seen in the following case report.

T. B., a 47 year old obese man, had been treated for severe hypertension for many years. His blood pressure ranged from 180/116 to 200/120 mm. Hg. He eventually developed heart failure and was given standard treatment, including digitalis and diuretics. There was some improvement but shortness of breath bothered him severely. This seemed primarily due to his obesity so we decided to try benzphetamine.

We began with 25 mg. three times daily but finally, with "tailoring," his appetite was effectively suppressed with 50 mg. three times a day. He had occasional palpitations but several electrocardiographic tracings showed no change. He lost 15.50 pounds in 20 weeks with relatively complete relief of his shortness of breath as a result. But precisely how many pounds lost were body fat and how many edema fluid could not be stated with accuracy.

Cardiovascular Status

Results were good regardless of the cardiovascular factor involved. This was a pleasant surprise for we had found no drug to date that had been of consistent help in the obese cardiac. Not only were there no exacerbations of existing complaints, but we observed improvement in physical status and mental attitude as weight loss occurred. Among our obese hypertensives, a tendency for blood pressure to fall as overweight was corrected was noted, confirming the earlier observations of Rhoades⁴ and Oster and Medlar.⁸

Side Effects

Only four patients complained of side effects. Although most noted slight central nervous system stimulation during the first week, only one had insomnia. For the majority the stimulation had a pleasant and acceptable quality but two reported slight jitteriness. One complained of transitory nausea. Thus, by "tailoring" individual dosage schemes it was possible almost completely to avoid undue central nervous system excitation and yet retain good appetite suppression in 94 per cent (47 patients).

So far as clinical and laboratory studies were concerned, no drug-related abnormalities were noted during this investigation.

Discussion

Results of this investigation confirmed earlier reports³⁻⁶ suggesting a separation of anorexigenic from cardiovascular and central nervous system effects. It did not prove that this was due to alteration in mode of action due to structural differences from the other amphetamine congeners. It seemed at least equally likely that it may have been associated with the dosage scheme employed. By starting with small, mid-morning doses, stimulation had subsided by bedtime in all but one patient. Then gradually modifying each patient's dosage regimen to suit his particular needs avoided undue side effects, retained appetite suppression.

It was of interest, however, that a recent "blind" comparison⁹ of benzphetamine, phenmetrazine, d-amphetamine, diethylpropion and placebo tablets on electroencephalographic activity clearly showed increase in low voltage fast waves with all medications but benzphetamine and placebo. Absence of this "arousal pattern" suggested that molecular structural differences may indeed account for the "split" we observed but more work will be required to prove this.

To determine whether the "split" was due to drug effect *per se* or to the "tailored" dosage scheme, it would be necessary to study, double blind, pairs of amphetamine congeners, using the flexible regimen with equal attention to detail in both drug groups. Such comparisons are currently under way, designed to get the best possible performance from all compounds.

Results should be of considerable scientific interest but for practical purposes the obese patient with cardiovascular disease is satisfied with a non-toxic, efficacious drug. Whether his loss in weight is due to superior drug action, to method of administration, or to both, is immaterial to him as long as he continues to approach or even to reach his normal body weight.

It should be emphasized that benzphetamine administration was only one factor in the total management responsible for the weight loss enjoyed by these patients. Dietary control, exercise well within limits of tolerance, and frequent encouragement and "remotivation" by the physician

were all important factors in weight reduction among these patients with obesity complicated by various cardiovascular diseases.

Summary

Added weight is an additional hazard to the patient afflicted with cardiovascular disease. Unfortunately, encouragement or admonition does not help the average obese cardiac even though he may be fully aware of this situation. We had found no drug prior to this study that has been of consistent help in appetite suppression in obese cardiacs. We, therefore, were pleasantly surprised to note in our pilot studies that our patients began to lose weight with benzphetamine, some with slight but most without, central nervous system stimulation.

It must be emphasized the drug was successfully used as one component of total management, also including dietary council, carefully limited exercise and frequently "remotivation." Patients were closely observed. Serial electrocardiographic tracings showed no drug-related changes and there were no exacerbations of existing complaints. On the contrary, weight loss was accompanied by general improvement in mental attitude.

We want to stress that benzphetamine is no panacea. Nevertheless, it is the first medication in our experience that was well tolerated and regularly effective in inducing weight reduction in patients with cardiovascular disease. Larger and lengthier studies are indicated.

References

1. Society of Actuaries: Build and Blood Pressure Study, 1959.
2. Modell, W.: Status and Prospect of Drugs for Overeating. *J.A.M.A.* 173:1131-1136 (July 9) 1960.
3. Oster, H. and Medlar, R.: A Clinical Pharmacologic Study of Benzphetamine (Didrex®), A New Appetite Suppressant. *Arizona Medicine* 17:398-408, 1960.
4. Rhoades, F. P.: Obesity Control with Benzphetamine (Didrex®), presented at the Postconvention Bahamas Conference, Nassau, Bahamas, June 21, 1960.
5. Stough, A. R.: Efficacy, Persistence, and Tolerance Studies of the Appetite Suppressant, Benzphetamine Hydrochloride (Didrex®), with observations on patients given the drug as long as 30 weeks. *Journal of the Oklahoma State Medical Society*. In press.
6. Reiser, P., Chericco, P., Palm, A., Wainer, D., Printz, P., and Harris, S. B.: Use of the Appetite Suppressant, Benzphetamine (Didrex®), in General Office Practice. Submitted to G. P.
7. Poindexter, A.: Appetite Suppressant Drugs: A controlled clinical comparison of benzphetamine (Didrex®), phenmetrazine, d-amphetamine and placebo. *Current Therapeutic Research* 2:354-363 (August) 1960.
8. Oster, H. L., and Medlar, R. E.: Reduction in Body Weight and Blood Pressure Following Administration of Benzphetamine Hydrochloride (Didrex®). Submitted to *Southern Medical Journal*.
9. Korenyi, C., Perry, G. F., and Whittier, J. R.: Effect of a New Oral Anorexigenic on EEG, Personal communication, to be published.



in bacterial
otitis
media
Panalba*
promptly
to gain precious
therapeutic
hours

In the presence of bacterial infection, taking a culture to determine bacterial identity and sensitivity is desirable—but not always practical.

A rational clinical alternative is to launch therapy at once with Panalba, the antibiotic that provides the best odds for success.

Panalba is effective (in vitro) against 30 common pathogens, including the ubiquitous staph. Use of Panalba *from the outset* (even pending laboratory results) can gain precious hours of effective antibiotic treatment.

SUPPLIED: Capsules, each containing Panmycin* Phosphate (tetracycline phosphate complex), equivalent to 250 mg. tetracycline hydrochloride, and 125 mg. Albamycin,* as novobiocin sodium, in bottles of 16 and 100. **USUAL ADULT DOSAGE:** 1 or 2 capsules 3 or 4 times a day.

SIDE EFFECTS: Panmycin Phosphate has a very low order of toxicity comparable to that of the other tetracyclines and is well tolerated clinically. Side reactions to therapeutic use are infrequent and consist principally of mild nausea and abdominal cramps. Albamycin also has a relatively low order of toxicity. In a certain few patients, a yellow pigment has been found in the plasma. This pigment, apparently a metabolic by-product of the drug, is not necessarily associated with abnormal liver function tests or liver enlargement.

Urticaria and maculopapular dermatitis, and a few cases of leukopenia have been reported in patients treated with Albamycin. These side effects usually disappear upon discontinuance of the drug.

CAUTION: Since the use of any antibiotic may result in overgrowth of nonsusceptible organisms, constant observation of the patient is essential. If new infections appear during therapy, appropriate measures should be taken. Total and differential blood counts should be made routinely during prolonged administration of Albamycin. The possibility of liver damage should be considered if a yellow pigment, a metabolic by-product of Albamycin, appears in the plasma. Panalba should be discontinued if allergic reactions that are not readily controlled by antihistaminic agents develop.

*Trademark, Reg. U. S. Pat. Off.

Panalba
your broad-spectrum
antibiotic of first resort.



Upjohn

75th year

The Upjohn Company
Kalamazoo, Michigan



A full complement of highly trained registered nurses helps make the patient's stay at Camelback Hospital an infinitely more pleasant one. A normal ratio of more than one registered staff nurse for every two patients assures maximum attention and consideration at all times. Constant care and supervision of patients is provided around the clock by the entire hospital staff.

Located in the heart of the beautiful Phoenix citrus area near picturesque Camelback Mountain, the hospital is dedicated exclusively to the treatment of psychiatric and psychosomatic disorders, including alcoholism.

APPROVED BY THE JOINT COMMISSION ON ACCREDITATION OF HOSPITALS; and THE AMERICAN PSYCHIATRIC ASSOCIATION

Camelback Hospital

5055 North 34th Street
AMherst 4-4111

PHOENIX, ARIZONA

OTTO L. BENDHEIM, M.D., F.A.P.A., Medical Director

Hotel Dieu, Sister's Hospital

Fully Approved by the
Joint Commission on Accreditation
of Hospitals.

Latest Facilities For All Services.
Emergency Service Around
the Clock.

EL PASO, TEXAS

Hotel Dieu School of Nursing

Fully approved by the
National Nursing Accrediting
Service.

Applicants May Apply
To
Sister Aloysius, *Director*

EL PASO, TEXAS

Hotel Dieu School of Medical Technology

Fully Approved by the American
Medical Association, American
Society of Clinical Pathologists,
and Registry of Medical Tech-
nologists.

EL PASO, TEXAS

Serving You 365 Days A Year

SOUTHWEST BLOOD BANKS

JOHN B. ELSEVER, M.D., *General Medical Director*

Federally Licensed and Supervised by Physicians from the Southwest to Provide Blood and Plasma
of Highest Quality on a 24-Hour Basis.

ALBUQUERQUE EL PASO HARLINGEN
HOUSTON LUBBOCK PHOENIX SAN ANTONIO



Southwestern Physicians' Directory



SAUL B. APPEL, M.D.

Certified by the American Board of Internal Medicine

CARDIOVASCULAR DISEASES

Suite 10E
KE 3-5201 EL PASO MEDICAL CENTER 1501 Arizona Ave.
El Paso, Texas

ARTESIA MEDICAL CENTER

Phone:

Henry L. Wall, M.D., Suite A SH 6-2311
General Practice
Robert W. Harper, M.D., Suite B SH 6-2531
Surgery and Gynecology
Owen C. Taylor, Jr., M.D., Suite C SH 6-2521
General Practice
C. Pardue Bunch, M.D., Suite D SH 6-3321
General Practice
Gerald A. Slusser, M. D., Suite E SH 6-2441
Surgery
X-ray and Medical Laboratory SH 6-4200
Fourth and Washington Artesia, New Mexico

ANDREW M. BABEY, M. D.

Certified by the American Board of Internal Medicine

CARDIOVASCULAR DISEASES

250 West Court Avenue Jackson 4-4481 Las Cruces, N. M.

**FRANK O. BARRETT
ANESTHESIOLOGY ASSOCIATES**

J. A. Shugart, M.D.

(Diplomate American Board of Anesthesiology)

Jack Walker, M.D., J. W. Redelfs, M.D., Jack Ellis, M.D.
B. F. Fehlman, M. D., C. G. Race, M.D.
— ANESTHESIOLOGY —

El Paso Medical Center KE 3-8431 1501 Arizona Ave.
El Paso, Texas

OTTO L. BENDHEIM, M. D.

**DIPLOMATE AMERICAN BOARD OF PSYCHIATRY &
NEUROLOGY**

5051 N. 34th Street 264-4111 Phoenix, Arizona

RAYMOND J. BENNETT, M. D.

Diplomate of the American Board of Neurology and Psychiatry

PRACTICE LIMITED TO NEUROPSYCHIATRY

Suite 7A El Paso Medical Center 1501 Arizona Avenue
Phone KE 2-1177 El Paso, Texas

JACK A. BERNARD, M.D., F.A.C.P.

Diplomate American Board Internal Medicine

**INTERNAL MEDICINE
CARDIOVASCULAR DISEASES**

Suite 3C El Paso Medical Center 1501 Arizona Avenue
Phone KE 3-8151 El Paso, Texas

VICTOR M. BLANCO, M.D.

Diplomate of the American Board of Surgery

GENERAL AND CANCER SURGERY

205 University Towers Building
1900 N. Oregon St. KE 3-5519 El Paso, Texas

CLEMENT C. BOEHLER, M. D., F.A.C.S.

H. W. DEMAREST, M.D., F.A.C.S.

Diplomates American Board Obstetrics and Gynecology

Suite 8-A Medical Center 1501 Arizona Avenue
Phone KE 2-6591 El Paso, Texas

FREDERICK P. BORNSTEIN, M.D.

Certified by the American Board of Pathology
in Pathologic Anatomy and Forensic Pathology

102 University Towers Bldg.
1900 N. Oregon St. KE 2-3901 El Paso, Texas

LOUIS W. BRECK, M.D.

W. COMPERE BASOM, M.D.

MORTON H. LEONARD, M.D.

MARIO PALAFOX, M.D.

ZIGMUND W. KOSICKI, M.D.

ADRIAN L. GRASS, M.D.

The El Paso Orthopaedic Surgery Group

1220 N. Stanton St. Telephone KE 3-7465 El Paso, Texas

BASIL K. BYRNE, M.D., F.A.A.P.

IRVIN J. GOLDFARB, M.D., F.A.A.P.

**Diplomates American Board of Pediatrics
PEDIATRICS**

Suite 4A El Paso Medical Center 1501 Arizona Avenue
KE 3-8487 El Paso, Texas

ROBERT J. CARDWELL, M.D.

(Diplomate American Board of Obstetrics and Gynecology)

608 University Towers Building

1900 N. Oregon St. KE 3-7587 El Paso, Texas

ROBERT N. CAYLOR, M.D.

Practice Limited to Ophthalmology

508 University Towers Building
1900 N. Oregon St. KE 3-4909 El Paso, Texas



Southwestern Physicians' Directory



WILLIAM I. COLDWELL, M.D.

Certified by the American Board of Internal Medicine

INTERNAL MEDICINE

501 University Towers Building

1900 N. Oregon St. KE 2-2661 El Paso, Texas

BRANCH CRAIGE, M.D., F.A.C.P.

(Certified by American Board of Internal Medicine)

INTERNAL MEDICINE

Suite 5B El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-7121 El Paso, Texas

E. S. CROSSETT, M.D.

Diplomate American Board of Thoracic Surgery

GEORGE W. IWEN, M.D.
THORACIC SURGERY

Cardiovascular Surgery Broncho-Esophagology
Suite 11-D KE 3-8511 or KE 2-2474 1501 Arizona Ave.
El Paso Medical Center El Paso, Texas

WICKLIFFE R. CURTIS, M. D., F.A.C.S.

JAMES D. BOZZELL, M.D., F.A.C.S.

Diplomates American Board of Urology

PRACTICE LIMITED TO UROLOGY

Suite 3B El Paso Medical Center 1501 Arizona Avenue
Phone KE 3-1426 El Paso, Texas

RITA L. DON, M.D.

Allergy

102 University Towers Building

1900 N. Oregon St. KE 2-3901 El Paso, Texas

ANTONIO DOW, M.D., F.A.C.S.

(Diplomate of American Board of Surgery)

GENERAL SURGERY

205 University Towers Building

1900 N. Oregon St. KE 2-7305 El Paso, Texas

HAROLD D. DOW, M.D.

FREDERICK J. KOBERG, M.D.

General Practice — Surgery

Box 456
702 Hobbs Road Phone 3641 Seminole, Texas

H. EDWARD DOWNS, M.D.

Internal Medicine

511 University Towers

1900 N. Oregon St. KE 2-9664 El Paso, Texas

JOHN A. EISENBEISS, M.D., F.A.C.S.

WILLIAM B. HELME, M.D.

Diplomates of the American Board of Neurological Surgery

NEUROSURGERY

926 E. McDowell Road AL 4-3151 Phoenix, Arizona

WARD EVANS, M.D., F.A.C.S.

(Diplomate American Board of Surgery)

SURGERY

608 University Towers Building

1900 N. Oregon St. KE 3-7587 El Paso, Texas

LESTER C. FEENER, M.D., F.A.C.P.

Diplomate American Board of Internal Medicine

INTERNAL MEDICINE

CARDIOVASCULAR DISEASES

404 Banner Bldg. KE 2-5771 El Paso, Texas

ALBERT A. GEMOETS, M.D.

Member American Academy of General Practice

GENERAL PRACTICE

3726 1/2 Alameda Ave. KE 3-7689 El Paso, Texas

H. M. GIBSON, M.D., F.A.C.S.

Certified by American Board of Urology

PRACTICE LIMITED TO UROLOGY

512 University Towers Building

1900 N. Oregon St. KE 2-8130 El Paso, Texas

L. A. GLADSTONE, M.D.

W. D. FEINBERG, M.D.

INTERNAL MEDICINE

Bldg. 14, Suite D 1501 Arizona Ave.
El Paso Medical Center KE 3-2508 El Paso, Texas

JAMES J. GORMAN, M.D., F.A.C.P.

Diplomate American Board of Internal Medicine

DIAGNOSIS — GASTROENTEROLOGY

701 First National Building KE 2-6221 El Paso, Texas

J. LEIGHTON GREEN, M.D., F.A.C.S.

GENERAL and GYNECOLOGICAL SURGERY

Suite 3A El Paso Medical Center 1501 Arizona Avenue
Phone KE 2-9790 El Paso, Texas

What now?



Chymar[®] for one thing

SUPERIOR SYSTEMIC ANTI-INFLAMMATORY ENZYME

to control inflammation, swelling and pain in SURGICAL TRAUMA, fractures and traumatic injuries. Reaction of tissue to surgical procedures and acute trauma delays healing through inflammation, edema and retarded absorption of blood extravasates. Timely use of Chymar minimizes these reactions—edema subsides, inflammation is suppressed, and absorption of extravasates is expedited. In the treatment of wounds, Chymar effected relief of pain, decrease in edema, and absorption of hematoma in 90% or more of patients.¹ In a study of 491 surgical cases, it was frequently observed that "post-operative wound 'hardness' had disappeared in 10-14 days."² In cosmetic surgery, results with supportive Chymar "were remarkable."³ And in traumatic injuries Chymar has consistently relieved pain and swelling, speeded healing of damaged tissue.⁴

1. Morani, A. D.: J. Med. Women's Fed. 42:12, 1960. 2. Cigarroa, L. G.: J. Internat. Coll. Surgeons 34:442, 1960. 3. Moore, F. T.: Brit. J. Plastic Surg. 11:335, 1959. 4. Personal Communications to the Medical Department, Armour Pharmaceutical Company, 1959.

the systemic
route to
faster
healing at
any location



ARMOUR PHARMACEUTICAL COMPANY
KANKAKEE, ILLINOIS
Originators of Listica[®]

CHYMAR

Chymar Aqueous and Chymar (in oil) contain crystallized chymotrypsin, a proteolytic enzyme with systemic anti-inflammatory properties. Each cc. of Chymar contains 5000 Armour Units of chymotrypsin, 0.18% methyl paraben, 0.02% propyl paraben, 2% aluminum monostearate, q.s. sesame oil. Each cc. of Chymar Aqueous contains 5000 Armour Units of chymotrypsin, 0.9% sodium chloride, 0.2% calcium acetate, 0.01% thimerosal, q.s. Water for Injection. ACTION: Reduces inflammation of all types, reduces and prevents edema except that of cardiac or renal origin, hastens absorption of blood and lymph extravasates, helps to liquefy thick tenacious mucous secretions; restores local circulation; promotes healing; reduces pain. INDICATIONS: Chymar is indicated in respiratory conditions such as asthma, bronchitis, sinusitis and rhinitis, in accidental trauma to speed reduction of hematomas, bruises and contusions, in inflammatory dermatoses to ameliorate acute inflammation in conjunction with standard therapies, in gynecologic conditions therapeutically or in conjunction with antibiotics in pelvic inflammatory disease, in surgical procedures as biopsies, G.I. surgery, hernia repairs, hemorrhoidectomies, plastic surgery and thrombophlebitis, in peptic ulcers and ulcerative colitis as an adjunct to diet, antispasmodics, antacids, etc., in genitourinary disorders as epididymitis, orchitis and prostatitis, in eye conditions as acute conjunctivitis, traumatic edema, hematomas, and eye surgery, in dental and oral surgery as fractures of the mandible or maxilla, alveolotomies, denture fitting, and multiple extractions, and in obstetrics as in episiotomies, breast engorgement, and thrombophlebitis. PRECAUTIONS: Chymar and Chymar Aqueous are for intramuscular injection only. Although sensitivity to chymotrypsin is uncommon, reactions to anti-inflammatory enzymes have been observed. The usual remedial agents (epinephrine, corticotropin (HP ACTHAR Gel), antihistamine, aminophylline, etc.) should be readily available in case of untoward reactions. Precautions (scratch testing for Chymar (in oil), scratch or intradermal testing for Chymar Aqueous) should be exercised in those patients with known or suspected allergies or sensitivities. As with any foreign protein, patients may develop sensitivity from repeated injections. It is, therefore, recommended that the above precautions be considered prior to administration. In further treatment of those patients in whom a previous injection of chymotrypsin produced signs of possible sensitivity, such as localized edema and erythema at injection site, urticaria, conjunctivitis, etc., particular care must be exercised. INCOMPATIBILITIES: With usual agents, none known—e.g., compatible with antibiotics and anesthetics. DOSAGE: 0.5 cc. to 1.0 cc. deep intramuscularly once or twice daily, depending on severity of condition. Decrease frequency as course of condition is altered. In chronic or recurrent conditions, 0.5 cc. to 1.0 cc. once or twice weekly. SUPPLIED: Chymar in Oil 5 cc. vials and Chymar Aqueous 1 and 5 cc. vials; 5000 Armour Units of proteolytic activity per cc. *Highly Purified.





Southwestern Physicians' Directory



DRS. HART, BOVERIE, BLACK,
CLAYTON, GREEN & WHITE

PATHOLOGICAL AND CLINICAL LABORATORIES
X-RAY DIAGNOSIS AND THERAPY

Radioactive
Isotopes

Cobalt
Beam Therapy

Pathology

M. S. HART, M.D.

C. L. GREEN, M.D.

Diplomates American Board of Pathology

R. F. BOVERIE, M.D.

G. L. BLACK, M.D.

R. S. CLAYTON, M.D.

J. E. WHITE, M.D.

Diplomates American Board of Radiology

MELVIN A. LYONS, M.S.H.A.

Business Manager

El Paso Medical Center
1501 Arizona Ave., Suite 2A
KE 3-4478

Medical Arts Building
415 E. Yandell Drive, Suite 105
KE 3-6926

EL PASO, TEXAS

SOL HEINEMANN, M.D., F.A.C.S.

Diplomate, American Board of Urology

UROLOGY

212 University Towers Bldg.

1900 N. Oregon St.

LI 2-1539

El Paso, Texas

SOLOMON HELLER, M.D.

INTERNAL MEDICINE

Hematology—Endocrinology

505 University Towers Building

1900 N. Oregon St.

KE 3-0406

El Paso, Texas

HERBERT E. HIPPS, M.D.

ORTHOPEDIC SURGERY

1612 Columbus Ave.

4-4701

Waco, Texas

RUSSELL HOLT, M.D.
B. LYNN GOODLOE, M.D.

GENERAL and GYNCOLOGICAL SURGERY

MEDICAL ARTS BUILDING

415 East Yandell Blvd.

KE 3-3443

El Paso, Texas

RALPH H. HOMAN, M.D., F.A.C.P.

CARDIOLOGY

POBERT B. HOMAN, JR., M.D., F.A.C.S.

DISEASES OF THE CHEST — THORACIC SURGERY

Suite 7D
Phone KE 3-1409

El Paso Medical Center

1501 Arizona Avenue
El Paso, Texas

GEORGE W. HORTON, M.D.

JOSEPH D. McGOVERN, JR., M.D.

PRACTICE LIMITED TO ORTHOPEDICS

513 West 4th

Federal 2-0183

Odessa, Texas

LOUIS G. JEKEL, M.D.

ROBERT H. SNAPP, M.D.

Diplomates American Board of Dermatology

DERMATOLOGY

550 W. Thomas Rd.

CR 4-4901

Phoenix, Ariz

W. A. JONES, M.D.

Diplomate American Board of Neurological Surgery

K. ZOLFOGHARY, M.D.,

NEUROLOGICAL SURGERY

Suite 1C

El Paso Medical Center

1501 Arizona Avenue

KE 2-7579, KE 3-9076

El Paso, Texas

G. H. Jordan, M.D., F.A.C.S.

C. E. Webb, M.D., F.A.C.S.

DRS. JORDAN AND WEBB

Diplomates American Board of Surgery

GENERAL and GYNCOLOGICAL SURGERY

Suite 7B

El Paso Medical Center

1501 Arizona Ave.

Phone KE 2-1693

El Paso, Texas

LINDELL M. KINMAN, M.D.

Diplomate American Board of Urology

UROLOGY

300 West Alameda

Phone MA 2-4111

Roswell, N. Mex.

M. NATHAN KLEBAN, M.D.

Certified by American Board of Internal Medicine

Internal Medicine

610 University Towers Building

1900 N. Oregon St.

KE 2-7079

El Paso, Texas

GILBERT LANDIS, M.D., F.A.C.S.

Diplomate American Board of Obstetrics & Gynecology

OBSTETRICS, GYNCOLOGY
and GYNCOLOGICAL SURGERY

Suite 15-D

KE 3-5023

1501 Arizona Ave.

El Paso Medical Center

El Paso, Texas

ROYCE C. LEWIS, JR., M.D.

Diplomate American Board of Orthopedic Surgery

ORTHOPEDIC SURGERY and SURGERY OF THE HAND

1910 Knoxville St.

PO 3-8281

Lubbock, Texas



Southwestern Physicians' Directory



A. L. LINDBERG, M.D.

Neoplastic Diseases

TUCSON TUMOR CLINIC

721 N. 4th Ave. MA 3-2531 Tucson, Arizona

CHARLES P. C. LOGSDON, M.D.

CARDIOLOGY

415 E. Yandell Blvd. KE 3-7916 El Paso, Texas

TRUETT L. MADDOX, D.D.S.

ORAL SURGERY

Suite 9A El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-3659 El Paso, Texas

WALTER B. MANTOOTH, JR., M.D.

JOE H. LEHMAN, M.D.

Dermatology and Cancer of the Skin

Suite 101 Lubbock
3801 19th Street SWift 9-4359 Texas

GEORGE B. MARKLE, IV, M.D.

Diplomate of the American Board of Surgery

GENERAL and GYNECOLOGICAL SURGERY

911 North Canal TU 5-5240 Carlsbad, New Mexico

MARSHALL CLINIC

I. J. Marshall, M.D.

General Surgery and Diagnosis

U. S. Marshall, M.D.

General Surgery and General Practice

E. A. Latimer, M.D.

General Practice

C. H. Fowler, M.D.

Internal Medicine and Cardiology

Thomas J. Jones, M.D.

Diseases of the Skin and Allergies

H. D. Johnson, Jr., D.D.S.

ROSWELL NEW MEXICO

HOWARD J. H. MARSHALL, M.D.

Member American Academy of General Practice

GENERAL PRACTICE

Suite 8E 1501 Arizona Avenue
El Paso Medical Center KE 2-2431 El Paso, Texas

MEDICAL CENTER HOSPITAL AND CLINIC

Eugene McCarthy, M.D., FACS, FICS

Diplomate American Board of Obstetrics & Gynecology

Jeff H. Davis, M.D., AAGP; Joe J. Horn, M.D., AAGP

Howard Handcock, M.D., DABR

A. B. Cairns, M.D., FACCP; W. Ralph Thomas, M.D.

220 St. Louis St. CA 4-7426 Plainview, Texas

JAMES R. MORGAN, M.D.

Certified by American Board of Obstetrics & Gynecology

OBSTETRICS and GYNECOLOGY

Suite 3A El Paso Medical Center 1501 Arizona Ave.

KE 3-2265 El Paso, Texas

A. WILLIAM MULTHAUF, M.D., F.A.C.S.

UROLOGICAL DIAGNOSIS AND SURGERY

1315 First National Bldg. KE 3-8986 El Paso, Texas

WALLACE E. NISSEN, M.D., F.A.C.S.

W. W. KRIDELBAUGH, M.D., F.A.C.S.

GENERAL SURGERY

Medical Arts Square
801 Encino Place, Suite 35 3-2251 Albuquerque, N. M.

F. KEITH OEHLISCHLAGER, M.D.

WILLIAM M. BRANTLEY, M.D.

OBSTETRICS & GYNECOLOGY

1167 E. 42nd St. Sherwood Medical Center Phone
Suites 5 & 6 Odessa, Texas EM 6-4447

THE ORTHOPEDIC CLINIC

ORTHOPEDIC SURGERY

W. A. Bishop, Jr., M.D., F.A.C.S.*

Alvin L. Swenson, M.D., F.A.C.S.*; Ray Fife, M.D., F.A.C.S.*

Sidney L. Stovall, M.D., F.A.C.S.*

Thomas H. Taber, Jr., M.D., F.A.C.S.*; Robert A. Johnson, M.D.

*Diplomates of the American Board of Orthopedic Surgery

2620 N. Third St. CRestwood 7-6211 Phoenix, Arizona

JAMES M. OVENS, M.D.

F.A.C.S., F.I.C.S.

Diplomate American Board of Surgery

CANCER AND TUMOR SURGERY

X-RAY AND RADIUM THERAPY

333 W. Thomas Road 279-7301 Phoenix, Ariz.

ROBERT E. PARKINS, D.D.S.

GENERAL DENTISTRY

Bldg. 1, Suite E 1501 Arizona Ave.
Phone KE 3-1245 El Paso Medical Center El Paso, Texas



Southwestern Physicians' Directory



JACK C. POSTLEWAITE, M.D.

Diplomate American Board of Internal Medicine

INTERNAL MEDICINE

Suite 5D 1501 Arizona Ave.
El Paso Medical Center KE 2-1385 El Paso, Texas

DONALD RATHBUN, M.D.

NEUROLOGY

and

Internal Medicine

Suite 4B 1501 Arizona Ave.
El Paso Medical Center KE 2-8778 El Paso, Texas

VINCENT M. RAVEL, M.D.

Diplomate American Board of Radiology

Radiology — Radio-Isotopes

Cobalt⁶⁰ — Teletherapy

101 University Towers Bldg.
El Paso KE 2-3459 Texas

HERMAN RICE, M.D.

Practice Limited to General Surgery

El Paso Medical Center

Bldg. 4-B 1501 Arizona Ave.
Phone KE 3-8051 El Paso, Texas

RISSLER-WOLLMANN CLINIC

ROSS W. RISSLER, M.D., F.A.C.C.

(Certified by the American Board of Internal Medicine)

INTERNAL MEDICINE — CARDIOLOGY

WALTER W. WOLLMANN, M.D., F.A.C.S.

(Certified by the American Board of Surgery)

GENERAL SURGERY

2001 Grant Ave. KE 3-1601 El Paso, Texas

CECIL A. ROBINSON, M.D., F.A.C.S.

Diplomate American Board of Orthopaedic Surgery

Orthopaedic Surgery

111 No. Pine Street JU 6-2541 Kermit, Texas

S. PERRY ROGERS, M.D.

W. HUNTER VAUGHAN, M.D.

(Diplomates American Board of Orthopedic Surgery)

ORTHOPEDIC SURGERY

Suite 2B 1501 Arizona Ave.
Phone KE 2-4433 El Paso Medical Center El Paso, Texas

WILLARD W. SCHUESSLER, M.D.

DONALD H. EWALT, M.D.

Diplomates of the American Board of Plastic Surgery

Plastic, Reconstructive Surgery and

Maxillo-facial Surgery

1501 Arizona Ave. Medical Center, Suite 4-C
El Paso, Texas

F. P. SCHUSTER, M.D.

S. A. SCHUSTER, M.D.

NEWTON F. WALKER, M.D.

BRADFORD HARDIE, M.D.

EYE, EAR, NOSE AND THROAT-BRONCHOSCOPY

First National Bldg. KE 2-1495 El Paso, Texas

O. J. SHAFFER, D.D.S., F.A.C.D.

(Diplomate American Board of Oral Surgery)

ORAL SURGERY

Suite 1D 1501 Arizona Ave.
Phone KE 3-6742 El Paso Medical Center El Paso, Texas

D. J. SIBLEY, JR., M.D.

GENERAL PRACTICE

Box 367 Phone 584 Ft. Stockton, Texas

EUGENE P. SIMMS, M.D.

— GENERAL PRACTICE —

Medical Arts Center

1213 Tenth Street HEmlock 7-1720 Alamogordo, N. M.

Leslie M. Smith, M.D. John C. Wilkinson, M.D.
H. D. Garrett, M.D.

DRS. SMITH, GARRETT & WILKINSON

Diplomates American Board of Dermatology

DISEASES OF THE SKIN

Suite 3D 1501 Arizona Ave.
Phone KE 3-6172 El Paso Medical Center El Paso, Texas

C. M. STANFILL, M.D.

Diplomate American Board of Otolaryngology

EAR, NOSE AND THROAT

Stapes Mobilization

507 University Towers Building

1900 N. Oregon St. KE 2-9449 El Paso, Texas

ROBERT HEALY STEVENS, B.S., M.D.

F.C.C.P.

ALLERGY — INTERNAL MEDICINE

1313 N. Second St. AL 4-8841 Phoenix, Arizona



Southwestern Physicians' Directory



C. S. STONE, M.D., F.A.C.S.

EXpress 3-5323

301 East Cain Street

Hobbs, N.M.

JESSON L. STOWE, M.D.

GRAY E. CARPENTER, M.D.

GYNECOLOGY AND OBSTETRICS

2323 Montana Avenue

KE 2-4631

El Paso, Texas

WINSLOW P. STRATEMEYER, M.D.

Diplomate American Board of Neurological Surgery

NEUROLOGICAL SURGERY

Suite 11A

Office KE 2-9167

1501 Arizona Ave.

El Paso Medical Center

Home JU 4-0553

El Paso, Texas

M. D. THOMAS, M.D.

Diplomate American Board of Anesthesiology

Suite 12-D

KE 3-3745

1501 Arizona Ave.

El Paso, Texas

El Paso Medical Center

TURNER'S CLINICAL

& X-RAY LABORATORIES

GEORGE TURNER, M.D.

DELPHIN von BRIESEN, M.D.

HELEN W. ANDERSON, M.D.

MEDICAL CENTER

1501 Arizona Ave.
Building No. 6

Phone: KE 2-4689
El Paso, Texas

ROBERT F. THOMPSON, M.D., F.A.C.S.

(Certified by American Board of Urology)

UROLOGY

301 University Towers Building

1900 N. Oregon St.

KE 2-4321

El Paso, Texas

3500 Physicians Read

Southwestern Medicine

HARRY H. VARNER, M.D.

LEIGH E. WILCOX, M.D.

RUSSELL L. DETER, M.D.

GENERAL SURGERY

Suite 5E

El Paso Medical Center

1501 Arizona Ave.

Phone KE 2-6529

El Paso, Texas

WILLIAM H. WADE, M.D., F.A.C.S.

Diplomate American Board of Surgery

GENERAL SURGERY

CARDIOVASCULAR SURGERY

El Paso Medical Center, 15-B

1501 Arizona Ave.

KE 2-8111

El Paso, Texas

RICHARD P. WAGGONER, M.D.

M.S. (SURG.), F.A.C.S.

GENERAL SURGERY

504 N. Richardson St.

Phone 208

Roswell, N. M.

GRADY M. WALLACE, M.D., D.A.B.O.

Practice Limited to the Eye

3801 19th Street

SW 9-4343

Lubbock, Texas

The Clinic-Hospital of San Angelo

D. D. WALL, M.D.

Obstetrics & Gynecology

R. M. FINKS, M.D.

Pediatrics

M. D. KNIGHT, M.D.

Surgery

W. H. BRAUNS, M.D.

Internal Medicine

ROY E. MOON, M.D.

Obstetrics & Gynecology

CHAS. F. ENGELKING, M.D.

Ear, Nose and Throat

DALE W. HAYTER, M.D.

Ophthalmology

R. A. MORSE, M.D.

Internal Medicine

RALPH R. CHASE, M.D.

Pediatrics

TOM R. HUNTER, M.D.

Surgery

H. W. DISERENS, M.D.

Pediatrics

Consultant in Pathology: LLOYD R. HERSHBERGER, M.D.

Consultants in Radiology: JOHN E. BALLARD, M. D.; JOHN G. BOLEN, M.D.

224-234 W. BEAUREGARD AVE.

J. B. ADCOCK, Administrator

SAN ANGELO, TEXAS

Give Us A Trial On Your

TAYLOR BACK BRACE

Orders

- Send the following measurements: from level of shoulders to tip of sacrum; circumference of pelvis above trochanters; circumference of waist; height and weight.

CHRISTOPHER'S BRACE AND LIMB CO.

2231 Montana St.

KE 2-9690

EL PASO, TEXAS

UNIFORMS

Doctors • Nurses • Interns • Technicians
Poplin, Nylon, Dacron
White and Colors

SURE-FIT UNIFORM CO.

612 N. Oregon St. KE 2-1374 El Paso, Texas

C. G. McDow and Son, Props.

Rio Grande Pharmacy

419-421 South Stanton St. KE 2-4473 El Paso, Texas

Only at the Popular in El Paso . . .

STACY ADAMS FOOTWEAR

POPULAR DRY GOODS CO.



GUNNING & CASTEEL DRUG STORES

"There is no finer prescription service . . . anywhere"


14 Conveniently Located Stores

El Paso, Texas

TAYLOR-SIMPKINS, INC.

MEDICAL OXYGEN

2123 Texas St. KE 3-0952 El Paso, Texas
Nights — Call LO 5-0359, or LO 5-3060



**MEDICAL CENTER
PHARMACY**
YOUR PROFESSIONAL PHARMACY
IN THE EL PASO MEDICAL CENTER
1501 ARIZONA AVE. PHONE KE 2-6968-69 EL PASO, TEXAS

We Carry A Complete Line of

DIABETIC FOODS AND SUPPLIES

McKEE PRESCRIPTION PHARMACY

107 East San Antonio Ave., El Paso
Dial KE 2-2693

For Your Convenience

Use Our Handy Charge-A-Plate Service!

the white house

El Paso, Texas

RICHARD E. MARTIN

MARTIN MORTUARY

Dial KE 2-3691

710 N. Stanton St.

El Paso, Texas

HARDING AND ORR *Funeral Home*

EL PASO, TEXAS

320 Montana Ave.

KE 3-1646

Kaster & Maxon

Funeral Home

El Paso, Texas

KE 2-3431



Southwestern General Hospital

Accredited by the Joint Commission on Accreditation of Hospitals

Member Hospital:

American Hospital Association
Texas Hospital Association
Blue Cross of Texas

•

COTTON AVENUE AND ERIE STREET • EL PASO, TEXAS

OVERTON CLINIC

300 Hughes Building

PAMPA, TEXAS

M. C. Overton, Jr., M.D.
Surgery and Gynecology

E. S. Williams, M.D.
Pediatrics and Obstetrics

J. R. Donaldson, M.D.
Surgery

G. R. Hrdlicka, M.D.
Radiology

C. M. Lang, M.D.
Surgery

R. W. Moore, M.D.
Internal Medicine

DUTTON LABORATORIES

FREDERICK P. BORNSTEIN, M.D.
(Certified by American Board of Pathology)
Pathological Anatomy and Forensic Pathology

RITA L. DON, M.D.
(Associate Fellow, American College of Allergists)
Allergy and Clinical Pathology

JOHN B. FRERICHS, M.D.
(Certified by American Board of Pathology)
Pathological Anatomy and Clinical Pathology

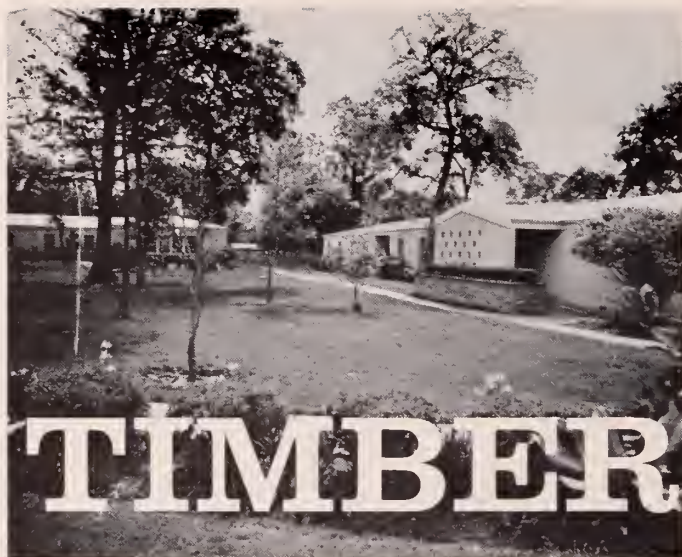
J. A. HANCOCK, Ph.D.
Consultant in Chemistry

616 Mills Bldg.

KE 2-3901

102 University Towers

El Paso, Texas



PSYCHIATRIC HOSPITAL

DAY HOSPITAL

DEPARTMENT OF OUT PATIENT PSYCHIATRY

TIMBERLAWN FOUNDATION

For Education and Research in Psychiatry

Narcotic Cases Not Admitted

TIMBERLAWN

PSYCHIATRIC CENTER

PERRY C. TALKINGTON, M.D., Clinical Director
 CHARLES L. BLOSS, M.D., Medical Director
 Associate Psychiatrists
 HOWARD M. BURKETT, M.D.
 JAMES K. PEDEN, M.D.
 WARD G. DIXON, M.D.
 JERRY M. LEWIS, M.D.
 C. L. JACKSON, M.D.
 RALPH M. BARNETTE, JR., B. B. A., Business Manager

Clinical Psychology
 PHILIP ROOS, PH. D.
 DONALD BERTOCH, M. A.
 Social Work
 BILL M. TURNAGE, M.S.S.W.
 ROBERT L. COATES, M.S.S.W.
 GERALDINE SKINNER, B.S., O.T.R., Director of Occupational Therapy
 LOIS TIMMINS, PH. O., Director of Recreational Therapy
 FRANCES LUMPKIN, R.N., B.S., Director of Nurses

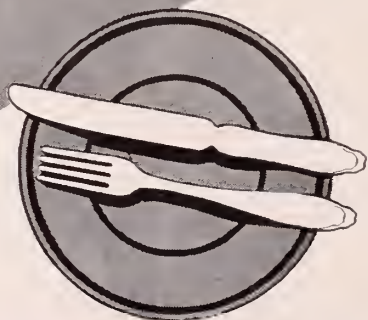
Evergreen 1-2121

Dallas 21, Texas

P. O. Box 1769

FETAMIN

FOR OBESITY



Mission
 PHARMACAL CO.
 SAN ANTONIO, TEXAS

- More Powerful
- Less Pressor Activity
- Avoids Nervous Side Effects
- Complete Dietary Supplement

SOUTHWESTERN SURGICAL SUPPLY CO.

Hospital Supplies and Equipment

Physician's X-Ray Apparatus

Laboratory Equipment

Your distributor for leading manufacturer's equipment and supplies — look to Southwestern for products and service. Some of our complete lines are listed for your convenience.

Air-Shields Equipment	Bard-Parker Company
Cambridge Instrument Co.	Becton-Dickinson Company
Clay-Adams Company	Ethicon Suture Corporation
Meals-On-Wheels	Hyland Laboratories
Shampaine Company	Johnson & Johnson
Simmons Company	J. Sklar Mfg. Company
Wilmot-Castle Co.	Warner-Chilcott Company

Our Sales & Service Representatives Cover the Southwest

Offices & Warehouses

EL PASO

ALBUQUERQUE

PHOENIX



congestion relieved

all day...all night
with only
one Extentab, b.i.d.

NEW

Dimetapp[®] Extentabs[®]

Let your sinusitis, allergy and U.R.I. patients breathe easier!

DIMETAPP Extentabs contain Dimetane[®] (parabromdylamine [brompheniramine] maleate) 12 mg., phenylephrine HCl 15 mg., and phenylpropanolamine HCl 15 mg., a proved antihistamine and two outstanding decongestants. The dependable Extentab form provides sustained relief from the stuffiness, drip and congestion of sinusitis, colds and U.R.I. for 10-12 hours with a single dose.

MAKING TODAY'S MEDICINES WITH INTEGRITY



RICHMOND 20, VIRGINIA
SEEKING TOMORROW'S WITH PERSISTENCE

NON-NARCOTIC

ULO[®]

chlophedianol hydrochloride

SYRUP

for control of acute cough regardless of etiology

**cough
suppressant
action**

**equal
to**

narcotics

**duration
of action**

**greater
than**

narcotics

**side
actions**

**less
than**

narcotics

The cough suppressant power of ULO is fully as great as that of the narcotics, though it reaches peak action somewhat more slowly.

After reaching peak action, ULO maintains its maximal cough-suppressant effect undiminished for 4 to 8 hours.

ULO is free from the limitations and undesirable side effects of narcotics... There is no constipation; no gastric irritation; no appetite suppression; no tolerance development; no respiratory depression.

ULO

A single chemical entity, alpha-(2-dimethylamino-ethyl)-o-chlorobenzhydrol hydrochloride, generically termed "chlophedianol hydrochloride."

INDICATIONS:

Upper respiratory infections
Common cold
Influenza
Pneumonia
Bronchitis
Tracheitis
Laryngitis
Croup
Pertussis
Pleurisy

CONTRAINDICATIONS:

There are no known contraindications.

SIDE EFFECTS:

These occur only occasionally and have been mild. Nausea and dizziness have occurred infrequently; vomiting and drowsiness rarely. As with all centrally acting drugs, an infrequent case may develop excitation, hyperirritability and nightmares. The symptoms disappear within a few hours after the drug is discontinued. In three cases (1 adult and 2 children) where the drug was continued in large or even excessive amounts after stimulation was present, hallucinations developed. Upon withdrawal of the medication, the patients recovered rapidly within a few hours.

DOSAGE:

ADULTS:

25 mg. (1 teaspoonful) 3 or 4 times daily as required;

CHILDREN:

6 to 12 years of age—12.5 to 25 mg. (½ to 1 teaspoonful) 3 or 4 times daily as required;
2 to 6 years of age—12.5 mg. (½ teaspoonful) 3 or 4 times daily as required.

AVAILABILITY:

ULO Syrup, 25 mg. per 5 cc. (1 teaspoonful) in bottles of 12 fluid ounces.

CAUTION:

Federal Law Prohibits dispensing without Prescription.



RIKER LABORATORIES, INC.
NORTHRIDGE, CALIFORNIA

Janet Doe, Librarian
New York Academy of Medicine
2 East 103 Street
New York 20, New York

Southwestern
MEDICINE

Official Journal of The Southwestern Medical Association,
The Western Association of Railway Surgeons, The Southwest Obstetrical and Gynecological Society,
Southwestern Dermatological Society, Texas District One Medical Association,
The Southwestern New Mexico Medical Society, and El Paso County Medical Society

Adolescence

Its Perspectives and Problems Page 497

Abdomino-Pelvic Pain

Caused by Gravitational Strain Page 501

Effects of Chlordiazepoxide Therapy

in Severely Disturbed Outpatients Page 509

COMPLETE CONTENTS ON PAGE 488

November, 1961

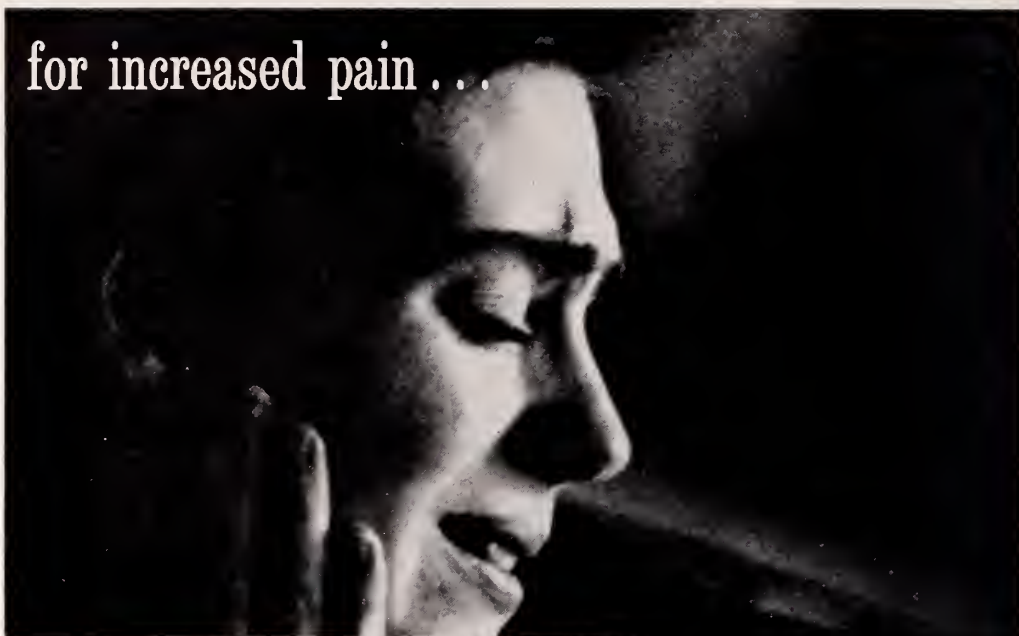
VOL. 42, NO. 11



Founded 1916

UNIVERSITY OF MICHIGAN
MEDICAL LIBRARY
NOV 15 1961

for increased pain . . .



increased analgesia

DARVON® COMPOUND-65 Darvon Compound-65 provides twice as much Darvon® as does regular Darvon Compound without increase in salicylate content or size of the Pulvule®. Usual dosage is 1 Pulvule three or four times daily.

Darvon Compound	Darvon Compound-65
32 mg.	Darvon 65 mg.
162 mg.	Acetophenetidin . . . 162 mg.
227 mg.	A.S.A.® 227 mg.
32.4 mg.	Caffeine 32.4 mg.

Product brochure available; write Eli Lilly and Company, Indianapolis 6, Indiana.

Darvon® Compound (dextro propoxyphene and acetylsalicylic acid compound, Lilly)
Darvon® (dextro propoxyphene hydrochloride, Lilly)
A.S.A.® (acetylsalicylic acid, Lilly)



120351



STRAIN

Essential in moving external masses, but potentially dangerous in moving the bowels, since vascular accidents may be precipitated in heart patients by excessive straining at stool. For cardiac patients with constipation, Metamucil adds a soft, bland bulk to the bowel contents to stimulate normal peristalsis and also to hold water within stools to keep them soft and easy to pass. Thus Metamucil, with an adequate water intake, induces natural elimination with a minimum of straining. Metamucil also promotes regularity through "smooth-age" in all types of constipation.

brand of psyllium hydrophilic mucilloid

Metamucil®

Available as Metamucil powder or as the new lemon-flavored Instant Mix Metamucil

SEARLE

Southwestern Medicine

*The U. S.-Mexico Regional Medical Journal Serving West
Texas, New Mexico, Arizona, Nevada and Northern Mexico*

Official Journal of

The Southwestern Medical Association, The Western Association of
Railway Surgeons, The Southwest Obstetrical and Gynecological
Society, The Southwestern Dermatological Society, Texas
District One Medical Association, The Southwestern
New Mexico Medical Society, and El Paso County
Medical Society

EDITOR Lester C. Feener, M.D.
404 Banner Building, El Paso, Texas

MANAGING EDITOR Louis W. Breck, M.D.
1220 North Stanton Street, El Paso, Texas

ASSOCIATE EDITORS
Branch Craige, M.D. Maurice P. Spearman, M.D.

VOL. 42 NOVEMBER, 1961 NO. 11

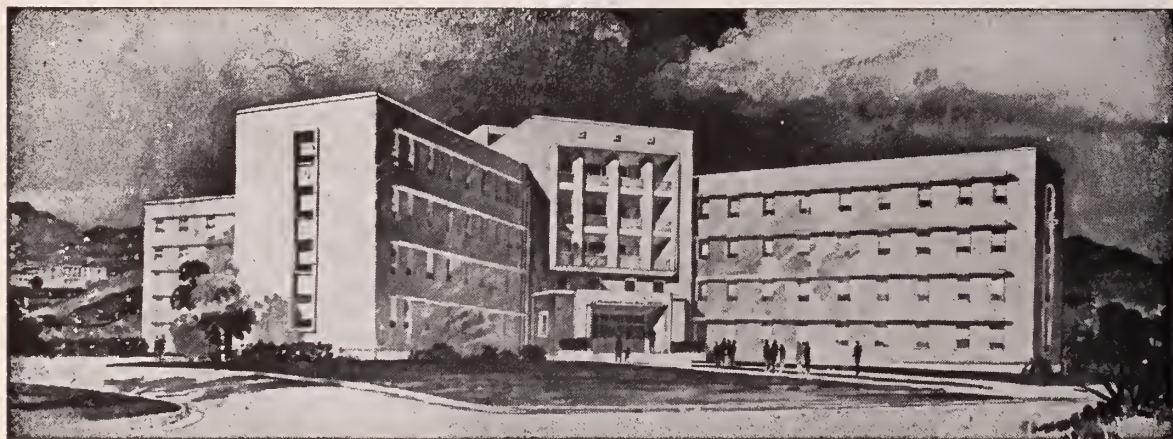
BOARD OF MANAGERS

Sherwood Burr, M.D.	Leland Evans, M.D.
Harold J. Beck, M.D.	Darwin Neubauer, M.D.
David Russek, M.D.	Carlos Tapia, M.D.
M. D. Thomas, M.D.	Louis W. Breck, M.D.
John Dettweiler, M.D.	H. D. Garrett, M.D.
Russell L. Deter, M.D.	Jack A. Bernard, M.D.
Louis G. Jekel, M.D.	Morton H. Leonard, M.D.
John F. Wanless, M.D.	

ADVERTISING AND SUBSCRIPTION OFFICES
Mott, Reid & McFall
Publishers
310 N. Stanton St., El Paso, Texas
Publication Office
265 Texas St., Fort Worth, Texas
Subscription Price \$5.00 — Single copies 50c
Published Monthly

Gordon M. Marshall — National Advertising Representative
30 West Washington Street, Chicago, Ill., Dearborn 2-5148;
Eastern Office — John H. Hinse, Room 340, 15 West 44th Street
New York 36, Oxford 7-5262.

Second-class mail privileges authorized at Fort Worth, Texas
Postmaster: All undeliverable copies returnable under Form 3579
should be to Southwestern Medicine, 310 North Stanton Street,
El Paso, Texas.



Providence Memorial Hospital

The Modern Hospital of the Southwest

APPROVED BY THE JOINT COMMISSION ON ACCREDITATION OF HOSPITALS

COMPLETE DIAGNOSTIC and TREATMENT FACILITIES
ISOTOPE THERAPY AND STUDIES COBALT 60 ROTATIONAL THERAPY UNIT
OUTSTANDING CHEMISTRY LABORATORY
FACILITIES FOR PSYCHIATRIC THERAPY ELECTROENCEPHALOGRAPHIC LABORATORY
2001 North Oregon Street • El Paso, Texas

**Where's
the arthritic
this
morning?**



**Thanks to
Medrol
Medules,
he woke up
comfortable
and he's
already
on the go.**

The first long-acting oral steroid, Medrol Medules gives the arthritic patient therapeutic action that continues through the night. In many cases, morning stiffness can become a thing of the past.

The slow, steady release of methylprednisolone often provides greater effectiveness, with less frequent administration and sometimes a reduced total daily dosage.

Many of your arthritic patients, too, can wake up comfortable on Medrol Medules.

Dosage: The following dosages are recommended in rheumatoid arthritis:

	<i>Initial</i>	<i>Maintenance</i>
Severe	12 to 16 mg.	6 to 12 mg.
Moderately severe	8 to 10 mg.	4 to 8 mg.
Moderate	6 to 8 mg.	2 to 6 mg.
Children	6 to 10 mg.	2 to 8 mg.

With Medrol Medules, it may be possible to reduce the total daily dose by $\frac{1}{2}$.

Indications and effects: Medrol benefits (anti-inflammatory, antiallergic, anti-rheumatic, antileukemic, antihemolytic) have been demonstrated in acute rheumatic carditis, rheumatoid arthritis, asthma, hay fever and allergic disorders, dermatoses, blood dyscrasias, and ocular inflammatory disease involving the posterior segment.

Precautions and contraindications: Because of Medrol's high therapeutic ratio, patients usually experience dramatic relief without developing such possible steroid side effects as gastrointestinal intolerance, weight gain or weight loss, edema, hypertension, acne, or emotional imbalance.

As in all corticotherapy, however, there are certain cautions to be observed. The presence of diabetes, osteoporosis, chronic psychotic reactions, predisposition to thrombophlebitis, hypertension, congestive heart failure, renal insufficiency, or active tuberculosis necessitates careful control in the use of steroids. Like all corticosteroids, Medrol is contraindicated in patients with arrested tuberculosis, peptic ulcer, acute psychoses, Cushing's syndrome, herpes simplex keratitis, vaccinia, or varicella.

Approximately 135
tiny "doses"
mean smoother steroid
therapy

Each capsule contains: Medrol
(methylprednisolone) 2 mg. or 4 mg.
Supplied in bottles of 30 and 100.

**Medrol^{*}
Medules^{*}**

Upjohn 75th year

*TRADEMARK, REG. U.S. PAT. OFF.

COPYRIGHT 1961, THE UPJOHN COMPANY

JUNE, 1961

THE UPJOHN COMPANY, KALAMAZOO, MICHIGAN



limits the blood pressure swing

Rautrax-N lowers high blood pressure gently, gradually . . . protects against sharp fluctuations in the normal pressure swing.

Rautrax-N offers all the advantages of Raudixin, Naturetin and potassium chloride in a single dosage form *plus: increased efficacy* — Combined action of Raudixin and Naturetin results in a potentiated antihypertensive effect greater than that produced by either drug alone. *increased safety* — Potentiated action permits lower dose of other antihypertensive agents, thus reducing severity of side effects. Protection against possible potassium depletion. *flexibility* — Interchangeable

with either Raudixin or Naturetin \bar{c} K. *economy* — Maintenance dosage of only 1 or 2 tablets daily for most patients. *convenience* — Once-a-day maintenance dosage. Two potencies available.

Supply: Rautrax-N — capsule-shaped tablets providing 50 mg. Raudixin, 4 mg. Naturetin and 400 mg. potassium chloride. *Rautrax-N Modified* — capsule-shaped tablets providing 50 mg. Raudixin, 2 mg. Naturetin and 400 mg. potassium chloride.



Rautrax-N*

Squibb Standardized Whole Root Rauwolfia Serpentina (Raudixin) and Bendroflumetiazide (*Naturetin) with Potassium Chloride

For full information,
see your Squibb
Product Reference
or Product Brief.

SQUIBB

Squibb Quality

— the Priceless Ingredient



*RAUDIXIN®; *RAUTRAX® AND *NATURETIN® ARE SQUIBB TRADEMARKS



*once again,
an active
hand in
"doing" —*

PABALATE®



mutually potentiating nonsteroid antirheumatics

"superior to aspirin"² and with a "higher 'therapeutic index'"¹

When sodium should be avoided—

PABALATE®-SODIUM FREE

When conservative steroid therapy is indicated—

PABALATE®-HC

Pabalate with Hydrocortisone

1. Barden, F. W., et al.: J. Maine M. A. 46:99, 1955.

2. Ford, R. A., and Blanchard, K.: Journal-Lancet 78:185, 1958.

In each yellow enteric-coated PABALATE tablet:

Sodium salicylate (5 gr.)
0.3 Gm.
Sodium para-aminobenzoate
(5 gr.) 0.3 Gm.
Ascorbic acid 50.0 mg.

In each pink enteric-coated PABALATE-SODIUM FREE tablet:

Same formula as PABALATE, with sodium salts replaced by potassium salts.

In each light blue enteric-coated PABALATE-HC tablet:

Same formula as PABALATE-SODIUM FREE, plus hydrocortisone (alcohol) . . . 2.5 mg.

Contents

Adolescence; Its Perspectives and Problems	Page 497
By George A. Constant, M.D., F.A.P.A., Victoria, Texas	
Abdomino-Pelvic Pain Caused by Gravitational Strain.	Page 501
By Martin Jungmann, M.D., New York	
Effects of Chlordiazepoxide Therapy in Severely Disturbed Outpatients	Page 509
By Felix Bambace, M.D., San Antonio	
Occupational Medicine Subject of Meeting in Grants, N.M., Nov. 17, 18	Page 515
Coming Meetings	Page 518



Front View — Enclosed Patio

Sandia Ranch Sanatorium, Inc.

6903 Edith N. E.

Diamond 4-1618

Albuquerque, New Mexico

Licensed by State Health Department as a Psychiatric Hospital of 68 Beds
For the Care and Treatment of Nervous or Mental Disorders

VARIOUS ACCEPTED FORMS OF THERAPY AVAILABLE

OCCUPATIONAL THERAPY AND OUTDOOR ACTIVITIES

CLINICAL LABORATORY AND ELECTROENCEPHALOGRAM

LIMITED FACILITIES FOR DOMICILIARY CARE

Favorable Year Round Climate — 20 Acres Landscaped Grounds

JOHN W. MYERS, M.D., Medical Director

ALAN JACOBSON, M.D., Psychiatrist

HENRY T. PENLEY, M.D., Psychiatrist

Butazolidin

brand of phenylbutazone

Geigy

arthritis and allied disorders



Proved by a decade of experience

Ten years of world-wide experience... almost 2000 published reports... have progressively entrenched Butazolidin as the leading nonhormonal antiarthritic agent.

In virtually all forms of arthritic disorder, Butazolidin affords prompt symptomatic and objective improvement without development of tolerance... without danger of hypercortisonism.

Butazolidin[®], brand of phenylbutazone, tablets of 100 mg.; Butazolidin[®] alka capsules containing Butazolidin, 100 mg.; dried aluminum hydroxide gel, 100 mg.; magnesium trisilicate, 150 mg.; homatropine methylbromide, 1.25 mg.



a more effective,
more pleasant
way to treat
dry...itchy skin

Alpha-Keri®

*water dispersible, antipruritic oil
for the bath or shower*

Alpha-Keri makes dry skin feel soft and smooth immediately . . . soothes the skin and stops itching. Alpha-Keri deposits a microfine, lubricant-moisturizing oil film over the entire skin area . . . hydrating the keratin and preventing it from drying out. It is particularly effective in replacing the action of skin lipids lost by the dehydrating effects of soap, water and weather. Alpha-Keri may be added to the bath or sponged on the wet skin while showering.

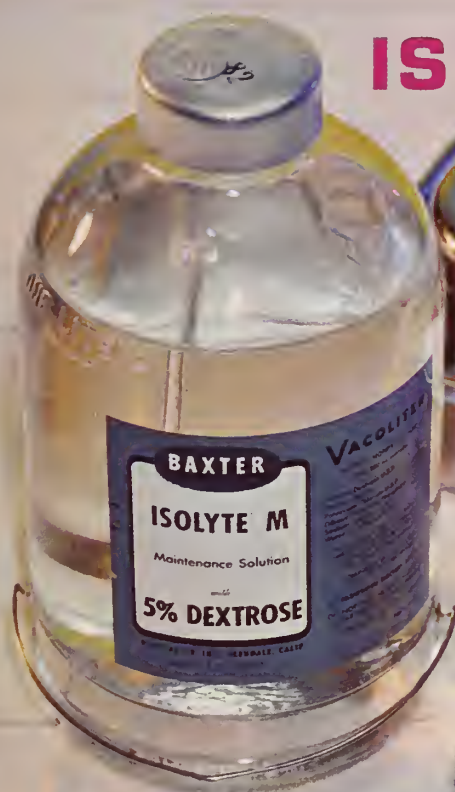
Alpha-Keri is the first and only completely water-dispersible, antipruritic oil combining mineral oil and a keratin moisturizer. Contains Kerohydric® (brand of dewaxed, oil-soluble, keratin-moisturizing fraction of lanolin), mineral oil and a special nonionic emulsifier. Alpha-Keri disperses immediately and completely in water. Available in bottles of 8 fl. oz.

Write for samples and literature.

WESTWOOD PHARMACEUTICALS, BUFFALO 13, NEW YORK

FOR EFFECTIVE FLUID MAINTENANCE THERAPY

ISOLYTE® M



the finest
parenteral
system

DON BAXTER, INC.
GLENDALE • CALIFORNIA

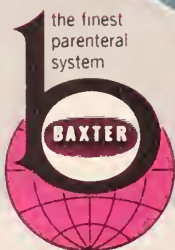
COMPOSITION PER LITER

Dextrose Gm.	Milliequivalents					Calories	mOs.
	Na+	K+	CL-	Lact-	HPO ₄ =		
50	40	35	40	20	15	180	400

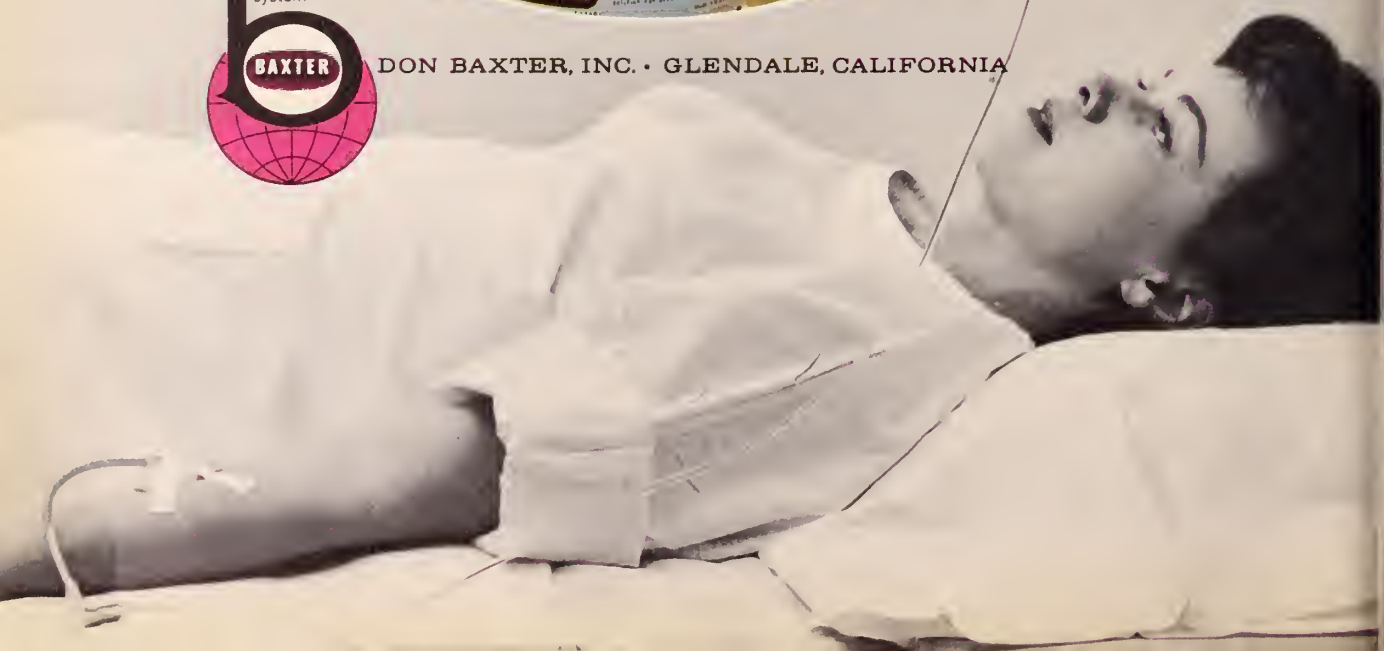
*Bicarbonate precursor

Border, J., Talbot, N., Terry, M., and Lincoln, G.: Use of Multiple Electrolyte Solution to Prevent Disturbances in Water and Electrolyte Metabolism. Metabolism 9:897-904 (October) 1960.

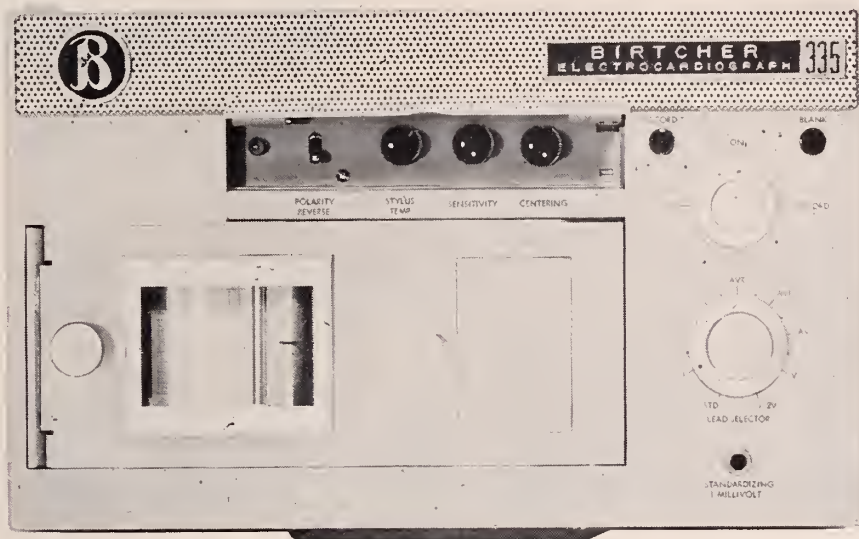
Safety through simplicity



DON BAXTER, INC. • GLENDALE, CALIFORNIA



announcing the all new transistorized
 COMPACT BIRTCHER ELECTROCARDIOGRAPH
**THE ONLY COMPACT ECG OFFERING
 BIG MACHINE FEATURES**



Designed to provide you with the utmost in portability with no sacrifice in trace size or accuracy; it fits snugly into any standard size week-end bag. A compact complement to the full size Birtcher 300-R ECG, the precision engineered Birtcher 335 Electrocardiograph is *Nuvistorized* and *transistorized* for maximum reliability, superlative performance and simplicity of operation. The product of years of research and testing, the new instrument offers a host of exclusive features.

STANDARD SIZE PAPER — STANDARD SIZE TRACE • 6-SECOND PAPER LOADING • SWITCH FOR POLARITY CHECK AND REVERSE • COLOR CODED BLANKING AND RECORDING INDICATOR LAMPS • OPERATING CONTROLS GROUPED FOR ONE HAND OPERATION • RECESSED AND COVERED ADJUSTMENT CONTROLS • MANUALLY CONTROLLED LEAD SEPARATION • LEVELTEMP® TUBULAR WRITING STYLUS • MONITORING WITHOUT RECORDING

FULL TWO YEAR GUARANTEE | THE PRICE... JUST \$595 | U.L. AND C.S.A. APPROVED

FOR A DEMONSTRATION AND ADDITIONAL INFORMATION — CONTACT YOUR LOCAL SUPPLIER
 IN ALBUQUERQUE IN TUCSON IN PHOENIX

Allied Medical Supply, Inc.
 1506 Central Avenue, S. E.
 Albuquerque, New Mexico
 CH 2-4795

Arizona Medical Supply Company
 1027 East Broadway
 Tucson, Arizona
 MA 3-7481

Allied Medical Supply of Arizona, Inc.
 3633 West Orange Avenue
 Phoenix, Arizona
 YE 7-2831

IN LUBBOCK
 Hunter Hospital Supply
 814 Avenue Q
 Lubbock, Texas
 PO 5-9426

IN AMARILLO
 Hunter Hospital Supply
 617 West 7th Street
 Amarillo, Texas
 DR 3-3701

B BIRTCHER
 One quarter century
 of honest value —
 Sincerely Presented

Phone your ECGs — ^{T.M.}PHONATRACE is coming — watch for it.

YOUR patient who has a disturbance of ego function, either developmental or constitutional or both, will find at Devereux, among other services, experienced multidisciplinary personnel who understand and treat children and young adults with various types of ego disturbance. These services are available to all students, including the simple, uncomplicated mentally-retarded and children with a wide variety of emotional problems requiring a program of residential care.

Your patient will participate in group living and learning experiences with others who are at his level of development and aptitude. He will receive continuous periodic evaluations by experts to determine optimum timing for the introduction of new experiences and additional challenges appropriate for stimulation of growth.

DA Non-profit Organization Founded in 1912EVEREUX

THE DEVEREUX FOUNDATION
Santa Barbara, California Victoria, Texas
DEVON, PENNSYLVANIA

HELENA T. DEVEREUX EDWARD L. FRENCH, Ph.D.
Founder and Consultant *Director and President*

SCHOOLS • COMMUNITIES • CAMPS
TRAINING • RESEARCH

WALTER M. UHLER, M.D. J. CLIFFORD SCOTT, M.D.
Director of Medical Services *Director of Psychiatry*

ANNE HOWE, M.S.W. KENNETH E. EVANS, B.S.
Director of Social Work *Director of Education*

JOHN R. KLEISER, Ph.D.
Director of Clinical Psychology

Q
U
A
L
I
T
Y



P
A
P
E
R
S

EXAMINATION TABLE ROLLS

All Sizes Available
Smooth and Crepe Paper

PROFESSIONAL TOWELS

Best Quality Cellulose
White and Green

ASK YOUR SUPPLIER FOR TIDI.

TIDI PRODUCTS are always of best quality,
uniform, and economical in use.

Distributed throughout the USA

M^{fd.} by TIDI PRODUCTS, Pomona, California

FOSFREE[®]

The Answer to
the Problem
of Pregnancy

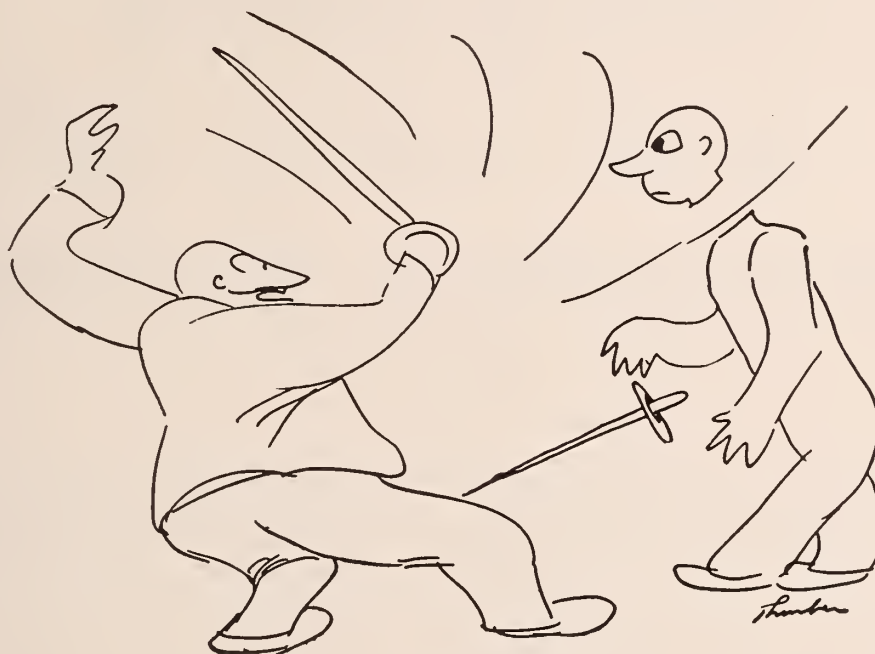
NAUSEA

ANEMIA

LEG CRAMPS

Small • Tasteless • Inexpensive

Mission PHARMACAL CO.
SAN ANTONIO, TEXAS



"Touché!"

COPY, © 1932 JAMES THURBER

For a better way to treat headache,
prescribe **Trancoprin[®]**

How Trancoprin relieves pain: Because most pain is accompanied by muscle spasm and tension, good medical practice suggests use of an analgesic that will relax skeletal muscles as well as dim pain perception. Such an analgesic is Trancoprin — a combination of aspirin and Trancopal[®], a proved, safe, skeletal muscle relaxant and tranquilizer. Trancoprin can be prescribed for any pain, except pain of such severity that a narcotic is needed.

Dosage: Adults, 2 tablets three or four times daily; children (5 to 12 years), 1 tablet three or four times daily. Each tablet contains 300 mg. of aspirin and 50 mg. of Trancopal (brand of chlormezanone). Bottles of 100 tablets.

Winthrop LABORATORIES
New York 18, N.Y.

1572M

No compromise with safety in peritoneal dialysis

We recommend that fresh tubing be used for each PERIDIAL® infusion in peritoneal dialysis: a simple precaution to minimize the risk of peritonitis. It would be only a small violation of the principle of the closed system to use the same piece of plastic tubing for an entire series of exchanges, and the patient might be "saved" a few dollars, over the course of a long dialysis.

But this procedure is not recommended. According to Maxwell,* freedom from the threat of peritonitis is largely dependent upon maintenance of an essen-

tially closed system, with fresh, sterile tubing for each exchange of fluids. In renal emergencies, small economies could be dangerous.

PERIDIAL and the especially designed administration sets are carefully engineered in all of their details to furnish the safest, simplest, and most truly economical dialysis possible. Ask your Cutter representative for literature which explains the PERIDIAL system.

*Maxwell, M.H., *et al.*: JAMA 170:917 (June 20) 1959.

PERIDIAL®

peritoneal dialysis in renal emergencies

CUTTER LABORATORIES • BERKELEY, CALIFORNIA



SYSTEMS ENGINEERS FOR MEDICINE

Adolescence

Its Perspectives and Problems

GEORGE A. CONSTANT, M.D., F.A.P.A.
Victoria, Texas

Studies on the adolescent period of life, particularly the psychological and social aspects, were formerly neglected. During the past ten years there has developed both in this country and abroad an increased interest in adolescent medicine.

Adolescent clinics have sprung up in an effort to fill this void. These clinics provide a genuine service to all of us by their concentrated research and studies. But it is the family doctor who is in the best position to take care of these young people.

He is in this enviable and unique position because he usually knows every member of a given family almost better than anyone else, and, as a family doctor, he is able to evaluate the total overall family situation almost on a continuum basis. My experience as a country psychiatrist has borne this out time and time again.

Adolescents being what they are, neither adults nor children, but a combination of both, are personalities who, until recently, have been neglected by almost everyone in the medical profession excepting the family physician. So, it is mainly up to the family doctor to take them through this developmental stage.

Adolescents Are Different

What about this particular stage? Certainly, there are problems peculiar to the adolescents just

as there are problems peculiar to any other stage of development. Adolescents *are* different from babies and they *are* different from adults.

Adolescents are more concerned about *themselves* than anyone else. They are concerned about *their* bodies, about *their* personalities, about *their* popularity, about *their* schoolwork, about *their* relationship with *their* parents, and about *their* reaching sexual maturity. Their needs and concerns are in relation to themselves.

Their goal, however, is to develop into happy, mature, healthy adults with the capacity to love and work. They are urgently striving for the ultimate integration of sex and love.

The mature individual is one who has learned to accept the reality principle over the pleasure principle. He is one who gives up his own egocentricity in order to work with others. This depends upon the development of reasoning power and his ability to love. By love, I mean the ability to be concerned about the welfare of another person.

It is a known fact that before one can love and respect others he must *feel worthwhile and have self-respect*. This is true, as you can see, not only for adolescents but for adults, too. This is a major problem for most teenagers. However, as a rule, it does not have its inception in adolescence, but goes back to infancy, childhood, and pre-adolescence.

An adolescent has a past, too. If an adolescent's

past life experiences are healthy ones, his adolescence will most likely be healthy. The number one rule is to teach prospective parents and parents of all children the three A's, which have been promulgated by Doctor Leo Kanner, Child Psychiatrist, Johns Hopkins University Medical School. The three A's are: 1) Acceptance, 2) Affection, and 3) Approval.

An infant has feelings and he can sense whether he is accepted, or approved of, and loved. He must be accepted and loved for what he is and not for his achievements alone, because this kind of acceptance is conditional; that is, conditioned upon whether he performed according to our standards.

It is essential that parents really want their baby. He needs this unconditional love and knows whether he is getting it by the way his basic needs are met. If his needs are met by trusting, tender, and loving parents (this includes father) he will have a sense of well-being and he will be able to trust his own environment.

This, once developed, will produce a feeling of optimism which may continue throughout his entire life. Children adopt the same attitude toward themselves which their parents have. They respect and trust themselves in proportion to the respect and love they have from their parents.

What about the adolescent who has not had the advantage of the three A's? What about the boy or girl who does not feel worthwhile? Chances are, that he or she has a warehouse of bad feelings located in his or her subconscious and perhaps even conscious mind.

The basic need here is to get rid of these feelings in an acceptable manner. It has been found that if these depreciative feelings are not allowed to be expressed they will continue to fill up the warehouse until it begins to come apart at the seams. Then look out, because actions follow feelings. Bad feelings generate bad actions. Good feelings generate good actions. It has been found that if bad feelings and thoughts can somehow be drained off, then good feelings rush in to take their place.

Verbalize Feelings

One of the best ways to accomplish this, is to be able to verbalize or talk about one's feelings. One

of the biggest difficulties we have with our teenagers is to help them talk about their problems, their gripes, their hopes, their fears, and their aspirations. By the same token, one of their biggest problems is to find someone with whom they can talk honestly.

Our young people usually do not talk with their parents or any adult who is not an acceptant person. Parental ambivalence blocks healthy acceptance. At one moment parents talk about how fine and grown-up their son is and then at the next moment they cry about the fact that they are going to lose their little boy or baby. Many times the family doctor is the main confidant for the teenager.

If you are a doctor—then you may have a technique all your own. But in case you haven't, here are a few suggestions. First, be interested in *him* more than his disease. Second, let *him* tell you *his* history and before talking with his parents, ask his permission to do so. Then make a separate appointment (on a separate day, if possible) with his parents, to get their history. Third, listen to *him*, to what he says not only vocally but be attuned to his affect, his carriage, his attitude, his reactions to questions.

Let Him Talk

If he is a free talker, do not interrupt him. If getting him to talk is like pulling teeth, proceed next with the physical examination. Many times the history spills out during the physical examination. When this happens, stop the physical and listen to his feelings and his thoughts. More than likely, he will communicate what's bothering him.

If this does not work, try the feed-back method. For example, if he answers your question about how he feels about schoolwork with, "It stinks."—then you throw it back to him gently, "It stinks?" with a question mark. This may get him off on a long account about some of his gripes—his bad feelings—his bad thoughts about school and possibly other areas.

If you are a parent or grandparent—you may already be having gripe sessions at your home. Just in case you're not, then you might introduce the matter at the dinner table with, "I heard a talk or read about the fact that it is important that

everybody be allowed—even encouraged—to voice his gripes and resentments.” If you do this, you will probably find your teenager saying, “Well, that isn’t anything new. You do it all the time.”

Your reply should go something like this, “Yes, I’m aware of that, but this *is* new because now I find that it is important that you be allowed that same privilege.” Then you must say that there is a time, place, and manner in which this is to be done. This is necessary because there must be some control.

Controls

Controls A Must—The matter of control has been one of the most confusing issues of our time. We have been “taken in,” so to speak, by the free progressive school of psychology during recent years.

Teenagers Want Controls. Teenagers need controls. This may surprise you but our adolescents need and want controls and will be glad to accept them. For instance, they need to be told when they must be in at night. This gives them something to go by when they are chided by their friends to stay out later and later. The curfew must be within reasonable limits—give or take fifteen or twenty minutes, of course.

Rules for Controls. They must be designed 1) to preserve his life and health, 2) to insure property against destruction, and 3) to respect the legal, moral, and religious codes of the community.

Stop, Look and Listen. The main thing is to take the time to see our youngsters in their proper perspective and hear them out with patience, honesty, and understanding. This is especially true when it comes to SEX. One of their biggest concerns is sex. Although they may be concerned about sex mechanics, they are more concerned about their sexy feelings.

What our teenagers want to know is how to manage their anxieties and feelings about sex. They want to know how to have self-respect and feel they are good boys and girls instead of bad boys and girls when sexy feelings creep over them.

Again, in our time, there has been too much confusion about feelings and actions. These must be separated as described above. Feelings and actions are two different things. If we can maintain this

distinction in our own minds, we will be better equipped to help our adolescents make this distinction in theirs.

Denial

Sometimes old concepts never die—but they should. Research has shown that our old concept of telling a child that he should not feel what he feels or not want what he wants does not work. This is known as denial. Another concept known as displacement does not work either. Camouflaging feelings by calling them by a sweeter or another name is not a good substitute for placing these feelings where they belong. These feelings are there—they cannot be swept under the rug. They cannot be ignored.

How are these feelings gotten out in the open? Again, you may have to introduce the subject by saying, “We used to think it was not nice to talk about sex or sexy feelings, but sexual matters need discussing, too. They are mighty important for people of your age.”

At first, your adolescent may show signs of doubt in the veracity of your statements. Having wanted to talk over such matters for a long time, he may show signs of complete and pleasant surprise. On the other hand, he may become nervous, fidgety, and withdrawn.

Another approach would be to say that you know that sex feelings are a very great problem when people are in their teens. Let your teenager set his own pace with respect to talking about sex. Sooner or later he will get into it.

The Big One. He may say, “You know, Dad, I’ve been thinking about this for a long time, but I haven’t quite figured out how to handle it.” “Handle it?” you might reply. “Yes, I don’t quite know what to do about going all the way.” Then you can answer, “I know how you feel, son. These sexual urges are wonderful feelings and they are normal and good feelings, but it is better to wait *to go all the way until you are married.*” And here are some of the reasons:

Marriage

Sex success is based on love, patience, tolerance, understanding and free communication. These have their greatest chance within the framework of marriage.

First, love is the basis for good, sexual adjust-

ment. And love is best expressed within the framework of marriage. Even with love, most young married people need to work out a mutually satisfying sexual adjustment. Many times, this may occur from the very start, but, most likely, it will take time — months, even years.

Sex success is something each couple learns in marriage. At first, it might be somewhat clumsy and exasperating, but with time, patience, understanding, willingness to learn, and love above all, this relationship will grow into a mutually satisfying one.

Second, married people must be themselves fully if they are to enjoy sex fully. They must be free, comfortable, and be able to express themselves honestly and openly. This, too, is best done within the framework of marriage. They learn from each other provided their lines of communication are kept alive and open. Here, again, the bad, angry feelings must be gotten out in an acceptable manner.

Third, only within the framework of marriage are a husband and wife afforded periods of complete privacy which is another essential for sexual compatibility and adjustment.

Fourth, marriage offers a deep sense of basic security bolstered by the process of establishing a home, sinking in roots, and learning to live and work together.

Only marriage can offer husband and wife the ingredients for sex success. Love, free communication, complete privacy, and basic security provide the best atmosphere for learning the arts of love-making.

What our young people want is for us to let them know that it is all right for them to have these good feelings, and, at the same time, they want us to help them control their acts. They need to be able to talk with us without being afraid of being condemned. They need and want controls and will exercise them if given half a chance.

Summary

In summarizing, I should like to offer the following suggestions to you as doctors and/or parents:

1. Remember the three "A's" — Acceptance, Affection, and Approval. Practice them yourselves. Teach them to parents and prospective parents, including our adolescents.
2. Remember, adolescents *are* different — but they respond best to the family doctor who cares.
3. Encourage griping — but remember controls.
4. Do not interrupt the talking adolescent until he is through.
5. Sometimes the key to the emotional lock can be found during the physical examination.
6. Remember: Sexy feelings and sex actions are two different things.
7. Again, the matter of control. It is all right to talk about sexy feelings and sexy thoughts and sexy desires — but better wait for sexy acts until you're married.
8. Stop! Look! Listen!

306 North Moody

Editorial - -

The Editor of SOUTHWESTERN MEDICINE feels that the article which starts on the following page, entitled "Abdomino-Pelvic Pain Caused by Gravitational Strain," by Dr. Martin Jungmann, may be of interest to those concerned with the treatment of low back pain.

This material presents another approach to the problem of backache, the current treatment of which, in general, leaves much to be desired.

Considerable attention recently has been focused on low back pain principally because of the President's backache. While the use of steroids, local injection with novocain, or other methods may produce excellent results in the treatment of some people, they have been without value in others.

SOUTHWESTERN MEDICINE cannot evaluate the claims made for the method of therapy described in the following article and simply presents this material for its readers to digest and evaluate.

Abdomino-Pelvic Pain Caused by Gravitational Strain

MARTIN JUNGSMANN, M.D., *New York**

We first encountered the problem of chronic, abdomino-pelvic pain in our studies on intractable backaches. While experimenting with "antigravity leverage" we made the chance observation that, together with the backaches, chronic abdomino-pelvic pain of obscure and refractory character also disappeared. We concluded that both kinds of pain must be causally related to the same underlying disorder, presenting two different subjective manifestations of one and the same basic pathology, and therefore responding equally well to the identical procedure.

Clinical experience shows that both chronic, abdomino-pelvic pain and backaches frequently occur together; alternate with one another; are ameliorated by rest and aggravated by physical exertion, emotional stress and fatigue; and display the characteristic fluctuations of "chronic-progressive conditions" with remissions and exacerbations of varying intensity and duration. In this light, they appear as co-ordinated symptoms of a pathology which we described thirty years ago in "The Theory of Static-Dynamic Decompensation."¹

This theory deals with the life-long struggle of "Man Versus Gravity," i.e., with the dynamic interaction of the gravitational and antigravitational forces and with the consequences resulting from man's failure to resist the thrust of that natural force adequately. Two major consequences of "static-dynamic decompensation" are chronic-progressive depression and fatigue of the whole individual.

As part of this general pathology, the mechanical depression of the spine and pelvis proper leads to abnormal rotations of the skeletal parts. The cardinal deviations of the spino-pelvic construction in upright posture² result in "spino-pelvic ptosis," a corollary to "visceroptosis," (Fig. 1A, B). For counteracting the gravitogenic depression, "antigravity leverage" is needed. This can be obtained by a mechanical device, the "pelvic-lever," which exerts pressure and leverage at two skeletal points of the pelvis, producing rotations

of the iliac bones and the sacrum opposed to those produced by gravity.

The principles of pelvi-mechanics and of antigravity leverage have been published by the author³⁻⁴. They are illustrated in Fig. 2A, B. In addition to direct antigravity leverage, redressive manipulations designed to condition the patient for the action of the pelvic-lever, and the elimination of all factors incompatible with physiological body mechanics (high heels, constrictive clothes, etc.) are needed. These combined measures constitute the "antigravity leverage technique" which has proved to be effective in reducing gravitational strain and in the relief of such symptoms as chronic, abdomino-pelvic pain³, and spinoptotic backaches⁵⁻⁶.

Common Diagnostic Errors

The pitfalls of differential diagnosis of chronic, recurrent abdomino-pelvic pain due to gravity strain are amply illustrated in numerous texts dealing with this intricate problem of practical medicine. The most common diagnostic errors are "chronic appendicitis," oophoritis, colitis, cholecystitis, enteroptosis, and "adhesions". Diagnostic and therapeutic difficulties are troubling internal medicine, as well as surgery, urology, and gynecology, and also neurology, psychosomatics and psychiatry.

Visceroptosis is often assumed to be a cause of abdomino-pelvic pain. "Dull abdominal pain has been ascribed on occasion to gastropptosis, especially in dyspeptic individuals with low-lying, hypotonic stomachs. Increasing experience has, however, failed to confirm any relationship between gastropptosis and abdominal pain." (Mellinkoff⁷). The unsuccessful endeavors to "lift" the fallen intestines through surgery brought an end to the ill-conceived "pexies."

Attempts to lift the intestines by corsets are still in vogue. If a firm corset brings a feeling of support and, for a limited time, also relief from pain, then this effect is obtained through compression of the intestinal packet that is bearing towards the ptotic spine. It is, however, technically

*Director, Institute for Gravitational Strain Pathology.

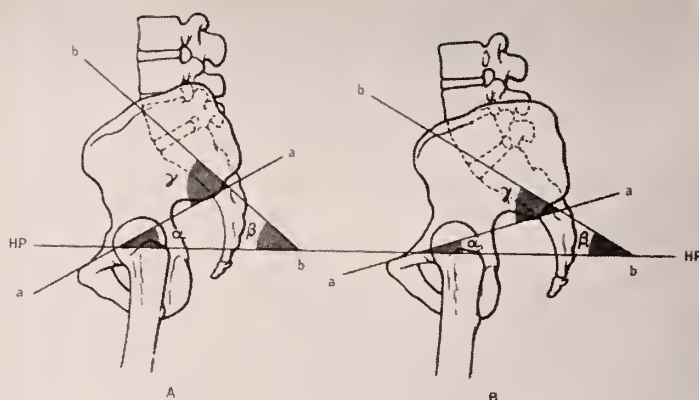


FIG. 1A,B

PELVIS: A. physiological position

B. depressed

(angles $\alpha, \ll \alpha, \beta, \ll \beta, \gamma, \ll \gamma$)

impossible to lift the intestinal packet as one anatomical and functional unit by means of a corset³. The harmful consequences of all abdominal supports for the muscles, respiratory mechanics, circulatory dynamics and the digestive functions are notorious. The price for any temporary benefit is too high in view of the damage incurred by such an indirect attack on the spinoptosis.

Postural Disorders are recognized as a cause of abdominal pain. Midline abdominal tenderness and pain, combined with "causalgic backaches" have been ascribed to spinal strain, instability, lumbar lordosis, etc.⁸ However, the true cause, namely, spino-pelvic ptosis, with gravity as pathogenic agent, has not been diagnosed. Yet it is this final step that supplies the pragmatic remedial answer to the riddle, namely, antigravity leverage.

Scoliosis and irritation of the ilio-psoas muscle through disease of neighboring organs, neurological afflictions or "rheumatism," fibrositis, and myositis have also been assumed to cause abdomino-pelvic pain. Ortnier⁹ speaks of "myalgia of the psoas muscle," and of "psoitis." Musculo-skeletal disorders are "commonly the source of abdominal pain which in location and quality is identical with that caused by disorders of the viscera. Spondylitis in its various forms is the most important of these conditions,

In all, the pain produced is most often in the midline of the back, but sometimes is also present in the midline of the abdomen at any level. It is constant, worse on movement of the spine, or on coughing and sneezing." (Mellinkoff⁷).

Spondylarthritis or "some spurs, visible on an x-ray picture of the spine should not be assumed too readily as a cause of abdominal pain. Definite dependence on certain movements of the vertebral column and of posture, and sometimes local tenderness of one or two vertebrae will aid in the diagnosis." (Bauer¹⁰). Deep tenderness at the spine can exist irrespective of x-ray signs for structural pathology. Most positive signs represent old scars, indicating wear and tear, attrition with repair reactions of the organism to repeated strain injury in the past. But the actual pain is due to the present functional strain afflicting the spine, the ilio-psoas and its attachments. "A considerable percentage of the patients who are referred to a gastroenterologist because of abdominal distress and soreness are really suffering from the stabbing pains or the burning distress of spinal arthritis and its associated fibrositis and neuritis; . . . it is unfortunate that so often the true nature of the disease is not recognized; . . . few of us physicians were made to see how common spondylitis is in persons past middle age, and how deceptive the symptoms can be." (Alvarez¹¹).

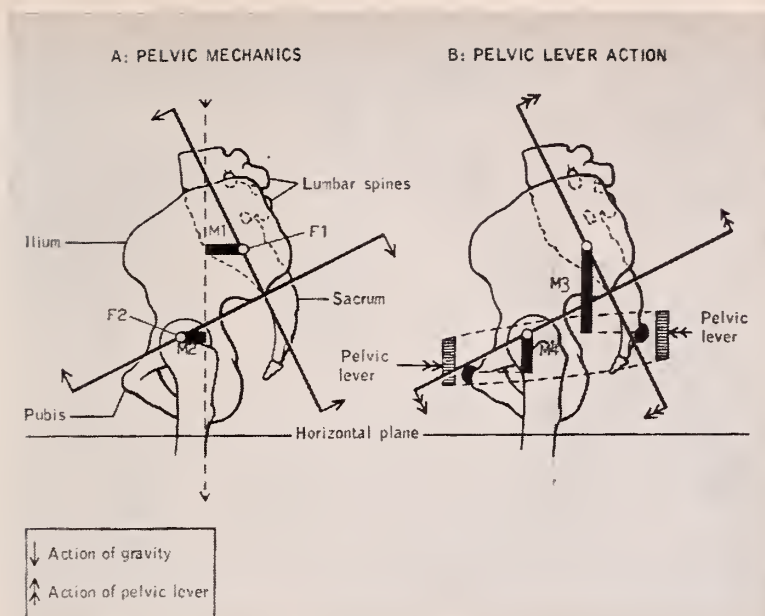


FIG. 2A,B

F_1 — fulcrum, spino-pelvic suspension

F_2 — fulcrum, hip joint

M_1, M_2 — gravity moments

M_3, M_4 — antigravity moments

(The pelvic-lever consists of an elastic metal ring with two pads for transmitting its pressure to the pubic bone and the lower part of the sacrum. It must be adjusted so that it can swing freely about the pelvis and that the pressure of the pads is about 6 pounds.)

The assumption of spinal origin of abdominal pain frequently leads to the prescription of cumbersome, rigid braces, which for technical reasons, cannot stop the progression of the spinoptosis, the proximate cause of the pain. The harm done by these heavier spinal braces is proportionately worse than that done by corsets.

Symptomatology of the Ilio-Psoas Muscle

The ilio-psoas muscle is in the forefront of the structures which oppose the thrust of gravity on the spine and the pelvis. Thus, it is liable foremost to be afflicted by gravitational strain. Due to its extensive distribution, from the groin to the epigastrium, pain of the ilio-psoas muscle can radiate to a large area of the abdomen and the pelvis (Fig. 3). The pain can shift from one side to the other, and also radiate to the frontal or the posterior aspect, with abdominal pain and backaches taking turns (Fig. 4).

Prolonged driving, bicycle riding, treading, climbing stairs, etc., activities that strain the psoas

muscle, can provoke acute exacerbations of the chronic pain, with paroxysmal attacks and cramps. Such spells, if accompanied by nausea and vomiting, profuse perspiration and hyperthermia, can cause acute distress with dramatic clinical pictures of doubtful cases of "abdominal epilepsy or migraine."

Moreover, "tenderness developing in muscle which has undergone continuous contraction for many hours and days, may be expected to outlast the actual contraction, as common experience tells us, it does in the stiffness which follows prolonged and especially unaccustomed exercise." (Lewis¹²).

In spino-pelvic ptosis, the ilio psoas muscle is subject to severe strain because of unphysiological, postural-mechanical working conditions (Fig. 5A, B). Thus, while actually brought on by the ordinary activities of daily life and work, the pain can appear, and persist, during bedrest at night. In this way, pain and tenderness of the ilio-psoas muscle become "chronic". Then, they cannot be

relieved or prevented unless and until the working conditions for the muscle are sufficiently corrected by antigravity leverage.

Objective Changes

That such improvements can actually be produced could be established by us through exact measurements and demonstrated in mathematical and geometrical terms, (special paper submitted for publication). The observed positional skeletal changes signify the rotation of the pelvis and the lifting of the spine, reversing the depression of the spine by gravity (Fig. 6A, B). Thus, the subjective relief from pain is based upon the objective changes effected by antigravity leverage. Correspondingly, clinical observations show conspicuous improvements of the general posture in the patients.

These changes are accompanied by changes of the musculature. In general, strain and fatigue of muscle result in loss of relaxing ability, in tenseness, shortening, hardening, rigidity, in catatonic phenomena and in marked, even excessive soreness on palpation, which appears when permanent contracture has set in, when the muscle has lost its fleshy, soft, resilient quality and has become tough, rigid, and unyielding. All this also applies to the ilio-psoas muscle.

Tests. Excessive tension of the ilio-psoas muscle

can be found on passive flexion of the hip; the muscle can be felt as a hard, taut, wire-like structure, spanning the pelvic cavity from the groin to the lumbar spine; reflex rotation of the pelvis and flexion of the thigh in an attempt to remove the sore muscle from the pressure of the examining hand; pain elicited with the hip extended — passive flexion of the hip reduces the pain; contrarywise, deep tenderness on the spine elicited, first, with the hip flexed, is aggravated by sudden passive extension of the leg. (It is sometimes difficult to perform these tests because of rigidly contracted abdominal muscles or of high intra-abdominal pressure which does not permit the spine to be reached at all. Resting, deep breathing and distraction of the patient's attention are helpful in such instances.) Inability to stand, or to walk fully erect, because of shortened ilio-psoas muscles, is also typical. During acute attacks patients "double up" with flexed hips to ease the downward pull of the psoas muscle.

Chronic Abdomino-Pelvic Pain in Gynecology

F. Kermauner¹³, who at his clinic has sponsored the early work of the present author, has — on the grounds of his first-hand knowledge of the "static-dynamic decompensation" — come to the conclusion that disorders of upright posture are responsible for many non-organic, supposedly

M. Ilio - Psoas, Anterior View

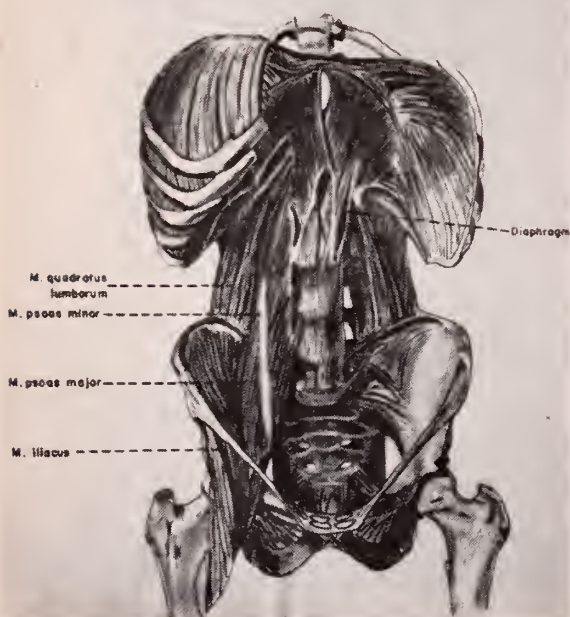


FIG. 3

M. Ilio - Psoas, Cross Section

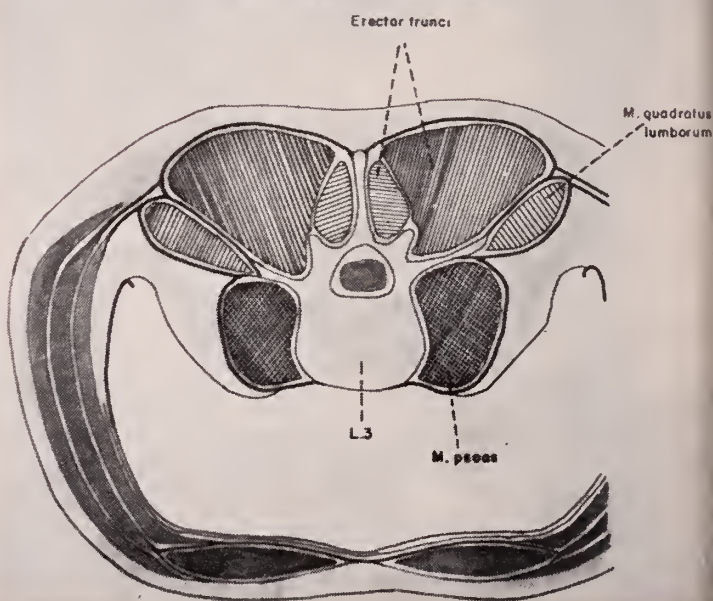


FIG. 4

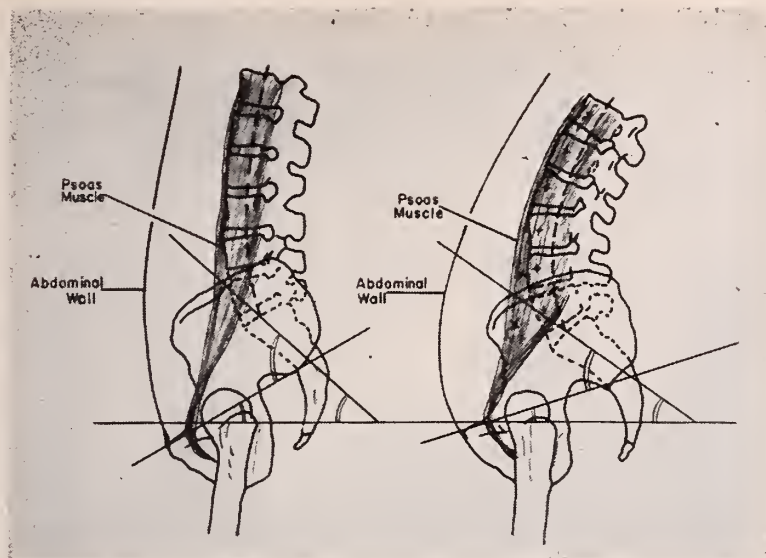


FIG. 5A,B
WORKING CONDITIONS
FOR ILIO-PSOAS MUSCLE:

A. physiological

B. in spino-pelvic ptosis

xxx deep tenderness

(The aim of antigravity leverage is to move the skeletal construction from the position of B in the direction of A, and thereby, to reduce ilio-psoas strain and A.P.P.)

“psychoneurotic” troubles in women, and, in particular, for the so-called “ovaric” or “neuralgia of the ovary.”

Kermauner regards the hollow back, found so frequently in women, not merely as a sex characteristic, but as an outright pathological condition which plays a decisive role in the causation of abdomino-pelvic pain. He elaborates on the abnormal contractive state of the trunk muscles and especially of the ilio-psoas. “The initial hypertonia of the ilio-psoas muscle is followed by constant spasm . . . deep soreness on both sides of the spine, sometimes also on the inner surface of the iliac bone, corresponding to the iliac muscle, is due to such spasm. . . . The term “ovaric,” or “neuralgia of the ovary,” is completely uncalled for and merely of historical interest,” (Kermauner^{1c}). “Ovaric” as a cause of pain has been still further challenged by Steinhausen¹⁴, who found that the same kind of pain also occurs in soldiers after physical exertion, demonstrating not only the non-specificity by sex of these pains, but also their strain nature.

Kermauner^{1c} holds that “this disorder constitutes a special feature belonging to the large, comprehensive and fundamental pathology of ‘static-dynamic decompensation’ of Jungmann. The great variety of the symptoms is illustrated by the fact that many of our patients had repeated (4 to 7, even up to 17) laparotomies; many had been declared chronic invalids; still they sought help. In the worst cases, particularly with spas-

ticity of the entire musculature, multiple sclerosis and osteomalacia had been diagnosed.

The treatment, even in not too advanced cases, may be tedious sometimes, but is definitely successful. Good care, rest, decontraction through massage of the spastic muscles (sometimes under general anesthesia) and closely supervised wearing of the pelvic-lever of Jungmann, has relieved our patients permanently from their pain without any treatment of the ovaries. In view of these results we can no longer speak of “chronic oophoritis,” nor of “neuropathic constitution,” commonly regarded as prerequisite for ‘ovaric.’ It appears quite plausible that the women, because of the constant pain and inability to work, eventually become nervous. The “nervousness” disappears, however, quite readily in a short time upon relief from the pain. . . . It is only from the decontraction of the muscles and the correction of posture, resulting in improvement of the working conditions for the muscles, that we expect relief . . . the concept of ‘static-dynamic decompensation’ will deserve greater attention in gynecology.”

Kermauner was, of course, concerned primarily with the gynecological implications of static-dynamic decompensation. He recognized its importance not only for backaches in women¹⁵, but also for a variety of other, apparently “purely gynecological” disorders¹³⁻¹⁶. The present author, however, postulates that the reach of static-dynamic decompensation extends far beyond any specialistic boundaries, pervading the broad

fields of clinical medicine on a truly holistic, organismal-personality scale.

Case Reports

In 1935, the author presented typical cases of previously unmanageable chronic abdomino-pelvic pain due to ilio-psoas strain⁴. Interestingly, in the discussion, the effects of antigravity leverage, namely disappearance of pain, and restoration of working capacity, were ascribed to suggestion and imagination of "hysterical women." This reflects also the present trend in medicine to throw every unintelligible, somatically intractable trouble into the lap of the psychiatrist. In 1953, the author read a paper on "Musculo-Skeletal Disorders Simulating Abdominal Disease"¹⁷, and presented a patient suffering, and subsequently relieved from ilio-psoas strain and pain through antigravity leverage.

Today, we submit abstracts of case histories representative of a great number of other like instances which we have followed for many years. The patients are still under our observation.

Case No. 1: Mr. O.C.G., (101/58), age 48, construction worker.

Long before onset of pain in the right lower quadrant and backache, patient suffered from great nervousness, irritability and tenseness; suspicion of peptic ulcer; the pains in the abdomen and back were ascribed to an inguinal hernia and patient was told that a hernia operation would relieve both kinds of pain. After uneventful surgery the same complaints continued, but in greater intensity. Our findings indicated: static-dynamic decompensation, spinoptosis, ilio-psoas strain. Antigravity leverage brought complete relief. Today, after three years, patient has no complaints whatsoever and is working regularly. Patient wears the pelvic lever during work to prevent relapse.

Case No. 2: Mrs. I.A., (113/158), age 47, housewife.

For several years extreme tiredness, nervousness, depression, abdominal pain combined or alternating with backaches, inability to do any kind of work. 1957 — exploratory laparotomy; no organic pathology found; abdominal pain persisted. In the same year — spinal fusion; no relief from backache; postoperative physical therapy and spinal brace without effect. In 1958 — diagnosis: static-dynamic decompensation, spino-pelvic and visceral ptosis; spondylolisthesis, ilio-psoas strain, exhaus-

tion. Antigravity leverage brought slow, gradual relief from all complaints. At present, patient is very active, doing not only her housework, but other work also. She is very dependent on the pelvic lever; faulty wearing of the device brings on abdominal pain which disappears promptly upon correction of the fault.

Case No. 3: Mr. W.H., age 52, businessman.

Patient was first seen in 1941, complaining of chronic abdominal-epigastric pain. Diagnosis: static-dynamic decompensation, spino-viscero-ptosis, ilio-psoas strain. The antigravity lever was *not* applied. For the following sixteen years the patient suffered from great weakness, nervousness, and abdomino-pelvic pain; treated for gastropotosis, irritable colon, asthenia, hypochondria; has not submitted to proposed abdominal surgery. In 1957, our original diagnosis was confirmed. Antigravity leverage brought gradual amelioration of all his complaints within the first year; technical mistakes brought repeated setbacks, which disappeared each time upon correction of the faults; for the past year there have been no complaints. Patient is wearing the pelvic lever most of the time, in order "not to get too tired."

Case No. 4: Miss A.S., age 64, concert pianist.

This very tall, asthenic patient was first seen in 1945. She had been suffering for many years from extreme weakness and epigastric pain; suspicion of a peptic ulcer led to laparotomy in 1928. After the operation the same pain continued, with greater intensity. Our diagnosis: static-dynamic decompensation, viscero-spino-ptosis, ilio-psoas strain; deep tenderness at L1, L2, with typical defense reactions. Antigravity leverage promptly brought relief. At present, patient is very well, active in her profession; does much gardening; is wearing the pelvic lever while working.

Comments

The reports illustrate common variation of ilio-psoas strain. An infinite array of similar cases can easily be recognized in the pertinent medical literature. The reported results must, however, not be interpreted as any promise, or even the possibility, of any easy or quick remedy. On the contrary, we wish to underline Kermauner's¹⁰ remark about the tediousness of the antigravity leverage technique, which requires special skill, much experience and patience, as well as adequate equipment. Any amateurish attempt to "improvise" is

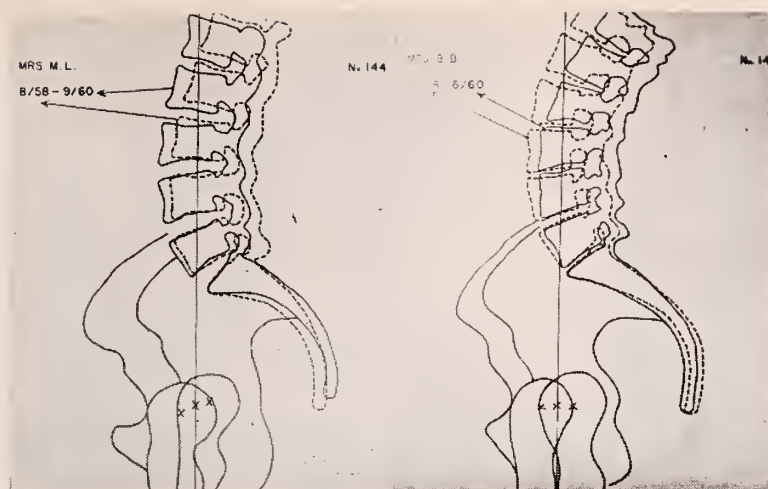


FIG. 6A,B

A. *Effects of gravity; no antigravity leverage applied; observation time 25 months.*

Progression of spino-pelvic ptosis; increase of lumbar hyperlordosis; rotation of sacrum with lower end moved backward; chronic-progressive deterioration of patient's condition (gravitosis).

B. *Effects of antigravity leverage; observation time 19 months.*

Regression of spino-pelvic ptosis; reduced lumbar lordosis; rotation of sacrum with lower end moved forward; patient fully recovered.

(tracings from x-ray photographs made under identical conditions on patients while standing; drawings are superimposed with promontory as fixed point and thrust line of gravity as plane of reference.)

a priori doomed to failure. The technique must be acquired by apprenticeship, like surgery or obstetrics.

Chronic-Progressive Fatigue

Medicine's quest to resolve the mystery of chronic abdominal pain has turned from earlier polysurgery to the behavioral, "psychoneurotic" aspect of the whole person. The "backaches" are, at present, passing through a phase where spinal fusions and laminectomies are taking the place of the viscero-pexies and -ectomies of old.

However, there exists a sound middle ground between these two extremes. By linking the problems of abdomino-pelvic pain and backache to spino-pelvic ptosis as part disorder of man's upright posture, and further, to the dynamic interaction between man and gravity, the scene has shifted to the energetics of the whole individual, whom we conceive as one indivisible bio-energetic unit. Consequently, every factor that weakens the total strength of the individual, or increases his fatigue, weakens implicitly his resistance to gravity. This, in turn, results in increased depression, and strain and pain.

Under these circumstances one can hardly ever effect a "final cure." At best, we can re-establish a naturally unstable balance of power between the individual and gravity. This delicate balance is always subject to upset, followed by flare-ups of subjective symptoms. So far, we cannot conceive of any way to "fix" such an unstable dynamic-energetic equilibrium once and for all. But to bolster this equilibrium in some measure, or to restore it time and again, antigravity leverage has proven to be a practicable and effective means.

Thus, the problem of gravitogenic abdominal pain has become not only a problem of human energetics, but also an ecological one, with the natural force of gravity as antagonist of man. The problem has further an evolutionary and an engineering angle in that the extremely hazardous posture of man is rendering him uniquely vulnerable to gravity. This "general constitutional disposition" inherent in the species "homo erectus" explains the enormous incidence of gravitogenic disorders with symptoms like backaches, abdominal pain, etc., and of "chronic-progressive fatigue." (Caution: here looms the danger of superficiality in diagnosis which can easily lead to missing other, particularly organic, pathology.)

This gravitogenic fatigue is a basic, objective, morbid state with a peculiar, multiform, sometimes "bizarre," symptomatology of its own. It always envelops the "whole person" and, on principle, affects every function and activity of life. Its most common symptoms are: tiredness, nervousness, irritability, restlessness, tenseness, lassitude, indecisiveness, apprehension, hypochondriacal fears, depression, anxiety, etc. These symptoms are part of the so-called "neurasthenic syndrome" — a non-specific, morbid entity, which may be caused by many organic (cerebral, toxic, systemic, etc.) factors. The word "asthenic" points to the long-recognized connection with fatigue and exertion.

Other manifestations are vasomotor and autonomic-vegetative imbalance (profuse perspiration, "neuro-circulatory asthenia," etc.) and altered motor and sensory, reflex activity. The gravitogenicity of both basic fatigue and of postural strain in static-dynamic decompensation supplies the common etiological denominator for both the "purely psychic" and the "purely somatic" phenomena which virtually all patients suffering from "gravitosis" exhibit. This single origination also provides a plausible rationale for the observed co-ordinated responsiveness to antigravity leverage of both kinds of complaints.

In view of the primary, physical-mechanical action of the pelvic lever exerting antigravity leverage, all effects are obviously started by somatic impulses. The latter induce secondarily a somato-psychic chain of events pervading and affecting the whole individual, body, mind, and soul. To discuss here the remarkable reactions and surprising changes produced on a holistic scale in the patients by antigravity leverage is beyond our present scope. Suffice to say that there takes place, altogether, a physio-psychological redressment leading to the relief of the manifold consequences from "gravitosis."

The pathology of gravitational strain is a central and basic problem of paramount importance for all medicine. It will require understanding of every physician as to the fundamental principles involved, of its pathomechanics and the clinical manifestations that extend into the domain of virtually every specialty. Already the fragmentary evidence which we could present in this article

shows why any narrow specialistic approach to the problem of "Man Versus Gravity" is, of necessity, inadequate. Fortunately, physicians are becoming increasingly aware of the need for a holistic orientation.

Summary

Gravitational strain can afflict the structures of the spine and produce pain that is then projected towards the abdomino-pelvic cavity and its contents. Such abdomino-pelvic pain can easily be mistaken for visceral disease and lead to repeated surgery, and eventually to psychotherapy. It is, however, possible to relieve such pain by means of a special technique, namely the "antigravity leverage technique," whose therapeutic effects, at the same time, demonstrate the true origin of the pain.

1384 Third Avenue

References

1. Jungmann, M., Die Theorie der Statisch-Dynamischen Dekompensation, Senkrumpf und Platttrumpf, *Wr. kl. W.*, Nos. 21-24, 1929.
2. Jungmann, M., Senk- und Platttrumpf, Behandlung der Statisch-Dynamischen Dekompensation, *Wr. kl. W.*, No. 31, 1928.
3. Jungmann, M., Aus der Pathologie der aufrechten Körperhaltung und der chronisch-progressiven Ermüdung des Menschen, Die Bekämpfung der "statisch-dynamischen Dekompensation" durch den "Beckenhebel," (Scherenhebelprinzip), *Wr. med. W.*, Nos. 12-20, 1936.
4. Jungmann, M., Beziehungen des Musculus psoas zu den Schmerzen im Unterbauch, *Z. f. Gyn.*, 1935, No. 42, *Geb.-gyn. Ges.*, Wien, März 12, 1935.
5. Jungmann, M., Kreuzschmerzen bei statisch-dynamischer Dekompensation und ihre Behandlung, *Wr. kl. W.*, 1928, No. 7; *Prot. Ges. Aerzte*, Vienna, Feb. 10, 1928.
6. Jungmann, M., Ueber Kreuzschmerzen bei statisch-dynamischer Dekompensation und ihre Behandlung, *Z. f. Gyn.*, Vienna, March 13, 1928.
7. Mellinkoff, M., The Differential Diagnosis of Abdominal Pain, The Blakiston Division, McGraw-Hill Book Co., Inc., New York, 1959.
8. Lewin, Philip, F.A.C.S., Backache and Sciatic Neuritis, Lea and Febiger, Philadelphia, 1943.
9. Ortner, N., Körperschmerzen und ihre Differential-diagnostik, Urban & Schwarzenberg, Berlin, 1931.
10. Bauer, Differential Diagnosis of Internal Diseases, Grune & Stratton, New York, 1950.
11. Alvarez, Walter C., Nervousness, Indigestion and Pain, P. Hoeber, New York, 1943.
12. Lewis, Th., F.R.S., Pain, The Macmillan Co., New York, 1943.
13. Kermauner, F., Die Erkrankungen des Eierstockes und des Nebeneierstockes, Stöckels Handbuch der Gyn., Bergmann, Pgs. 24, 46-48, 95-99, Berlin, 1932.
14. Steinhausen, R., Physiologische Grundlagen der hysterischen Ovarie, *Ztsch. Z. Nervenheilk.*, 19/369.
15. Kermauner, F., Gynaekologische Orthopaedic, *Wr. med. W.*, No. 1, 1930.
16. Kermauner, F., Behandlung der Schwangerschaftstoxikosen, *Wr. kl. W.*, No. 24, 1930.
17. Jungmann, M., Musculo-skeletal Disorders simulating Abdominal Disease: *Med. Circle Bulletin*, Vol. 1, No. 2, Case Presentation, 1954.

Effects of Chlordiazepoxide* Therapy in Severely Disturbed Outpatients

FELIX BAMBACE, M.D.,** *San Antonio*

The problems of dealing with the outpatients of a mental hospital have been greatly modified by the advent of psychotropic drugs. It is now possible to treat a much larger proportion of psychotic patients on an ambulatory basis. When successful, chemotherapy prolongs periods of remission and makes the patient accessible to psychotherapy and other means aimed at getting at the root of his trouble.

This clinic, on the grounds of the San Antonio State Hospital, acts as a clearing house, screening new patients and taking over the care of others discharged from the hospital or on furlough. Broadly speaking, the objective of the clinic is to keep the psychotics out of the hospital as long as possible, and psychoneurotics out altogether. With the heavy work load in a clinic of this sort it is impossible to see all the patients at frequent intervals on an individual basis.

Group therapy and a vocational rehabilitation program are valuable adjuncts, but chemotherapy is paramount. Without a tranquilizing drug many patients are unable to enter upon any reconstructive course. Until anxiety, phobias, compulsion and depression are under some degree of control the patient cannot cooperate in his own remission. The fact that chemotherapy has now relegated confinement and electroshock to the position of "last resort" in a psychiatric case instead of a routine procedure is highly significant.

Because of the large proportion of chronic and severe cases seen in this clinic the phenothiazines in great variety are used more frequently than are the other groups of tranquilizing drugs. So

far they have seemed indispensable for maintaining severely disturbed patients and thus have been prescribed despite their unpredictability and their tendency to produce undesirable side effects. Those phenothiazine derivatives which are especially effective in depressions are unfortunately liable to inflict liver damage^{1,2} and other serious reactions.¹⁻⁴ It has been felt, too, that in some patients these drugs have actually shortened periods of remission and have had a regressive effect. More often these agents have failed to reduce anxiety and control undesirable behavior.

Preliminary Investigation

Because of these drawbacks, found to some degree with all potent psychiatric drugs, psychiatrists are alert to the possibilities of newly developed agents. During the preliminary investigation of chlordiazepoxide the findings in many thousands of cases indicated that this agent was different in its effects,⁵⁻⁷ and general use in psychiatry has since confirmed the initial reports.

The unique chemical structure of chlordiazepoxide, its remarkable freedom from toxicity and side effects, and its specific action in alleviating anxiety and in some instances lifting depression have now been widely attested.⁸⁻¹¹ Of great interest was the early discovery that this compound was effective in a wide range of cases irrespective of their severity or long duration.^{12,13} It was also noteworthy, as Frain¹⁴ reported of a large ambulatory hospital population of psychotic women, that chlordiazepoxide seemed to have the double effect of calming patients and of keeping them mentally alert—an effect not characteristic of any one drug. A sedative which was also psychostimulative was indeed a departure.

*Librium, Hoffmann-La Roche Inc., Nutley, New Jersey.

**Director, San Antonio State Adult Mental Health Clinic.

The present report deals with a six months' trial of this new agent in 73 patients of the San Antonio clinic.

Methods and Materials

The population in this study consisted of 73 patients, of whom roughly two-thirds were diagnosed as schizophrenics or as suffering psychotic symptoms. The disease was often of long standing; 29 of the group had been hospitalized previously, often several times, and others had been under psychiatric treatment for many years. The group consisted of 31 males and 42 females; most of the women were housewives and the men were predominantly unskilled workers. There was a sprinkling of students and clerical or professional workers. In age the patients ranged from 16 to 73 years, distributed as follows:

16 to 20 years	5
20 to 30 years	16
30 to 40 years	25
40 to 50 years	11
50 years and older	16

Almost all the patients had received psychiatric drugs previously, mostly the phenothiazines. Often several different agents had been tried with varying degrees of success.

Considerable effort was made to find the optimal dosage of chlordiazepoxide for each case. Elderly or physically debilitated patients might be kept on a dosage of 10 mg. a day. The general run of patients were prescribed 10 mg. two or more often three times a day, and this amount also proved acceptable as a maintenance dosage in many cases. The patient's response to the drug was watched as closely as possible, and if indicated, dosage was gradually increased up to a maximum of 50 mg. q.i.d.

Duration of treatment ranged from a few days to approximately six months. As a rule patients had received chlordiazepoxide therapy for at least 30 days before its effects were evaluated.

Results

The results of chlordiazepoxide therapy are presented in Table 1. Seven patients were lost to

follow-up; one entered military service, another was a court referral, returned to a distant town, and the remaining five failed to keep their appointments. These patients have been omitted from the final evaluation.

Of the 66 remaining cases, 39 were rated as showing excellent response; in 11 the results were good, in four fair and in six poor. Six patients were hospitalized for courses of electroshock therapy, and in these cases, discussed below, no evaluation of chlordiazepoxide was attempted.

Thus 50 patients (75.7 per cent) obtained good or excellent results from chlordiazepoxide medication, and it is worth pointing out that the alleviation or remission of symptoms was predominantly marked rather than moderate. The best response occurred in the psychoneurotic cases (17 of 21), cases of anxiety reaction (6 of 7) and the two mentally deficient patients. However, the results in the schizophrenic group of 25 were gratifying; 11 showed an excellent response and four a good response, a percentage of 60. Of the five paranoid type schizophrenics two received some benefit, but the other three were hospitalized when chlordiazepoxide failed to control their symptoms. The drug was also of little benefit in the two manic-depressive patients.

In general, the impression was that unless the patient was suffering organic brain deterioration, grave endogenous depression or a marked cyclothymic illness, chlordiazepoxide exerted what might be described as a benign effect: mood elevation; obtunding of anxiety, phobias, obsessive thinking and compulsive behavior; and progress toward a more normal level of thought and action.

The comments in Table 2 represent brief explanations of why it was necessary to hospitalize 11 patients after the initiation of chlordiazepoxide therapy. In all but four cases these patients were *returning* to the hospital after a period of remission. The effect of chlordiazepoxide therapy was evaluated as poor only in the two cases of manic-depressive reactions, in which manic symptoms in one case and malignant depression in the other were believed to have been accentuated by the drug. In six cases it was felt impossible to judge the role of chlordiazepoxide in the patient's condition.

TABLE 1
THE RESULTS OF CHLORDIAZEPOXIDE THERAPY

<i>Diagnosis</i>	<i>No.</i>	<i>E</i>	<i>G</i>	<i>F</i>	<i>P</i>	<i>Did not return</i>	<i>Hospitalized</i>
Schizophrenic Reaction	25	11	4		2	3	5
Chronic undifferentiated type	8	3	2		1	1	1
Acute undifferentiated type	3	2			1		
Paranoid type	5		2				3
Schizo-affective	5	4					1
Reactive catatonic	2	1				1	
Mild	2	1				1	
Psychoneurotic Reaction	21	15	2	1	2	1	
Anxiety	7	6				1	
Depressive	6	5	1				
Obsessive-compulsive	3	2	1				
Conversion reaction	4	2		1	1		
Mixed	1				1		
Affective Reaction	5	1	1		2		1
Personality Disorder	7	3	1	2		1	
Anxiety Reaction	7	5	1			1	
Chronic Brain Syndrome	4	1	2	1			
Mental Deficiency	2	2					
Involuntal Psychotic Reaction	2	1				1	
TOTALS	73	39	11	4	6	7	6

A minimum of side effects was noted, even in patients on chlordiazepoxide medication for several months at relatively high dosage levels. Four patients reported drowsiness and slight ataxia, three became nervous or overstimulated. These effects were reversed when dosage was reduced, except in two cases of schizophrenia of the chronic undifferentiated type, accompanied by mental deficiency, whose response to chlordiazepoxide was rated as poor. One patient, a woman of 48 suffering a conversion reaction with severe depression, stated that she had the sensation of "her head going off her shoulders," after 75 mg. of chlordiazepoxide t.i.d. for three days. This patient was suffering a malignant depression which was not relieved by a series of ECT she subsequently received in the hospital.

The following case histories suggest the wide range of effectiveness of chlordiazepoxide in relieving symptoms.

Case Histories

1. A male aged 31, with schizophrenic reactions of the acute undifferentiated type, hospi-

talized on previous occasions, had been medicated in the clinic with phenothiazines. Chlordiazepoxide therapy was initiated at 75 mg. a day, followed by a maintenance dose of 10 mg. q.i.d. Duration of treatment was 3½ months. The drug relieved him of suspiciousness, autism and introspection, and his urge for self-analysis was much reduced. He feels grateful that "a good" medication was finally "hit upon." Before treatment with chlordiazepoxide he had responded to the therapist with ingratiating rather than hostility. He has also become less jittery.

2. A female aged 39 with a history of obsessive-compulsive behavior and homosexuality, and a diagnosis of anxiety compulsivity; this was displayed in the desire to pick up trash, and the avoidance of shaking hands with males. The patient is a thin, masculine-appearing individual in men's clothing, but without significant bodily symptoms. She had not responded to four different phenothiazine derivatives. She was put on chlordiazepoxide, 50 mg. t.i.d., increased a week later to 75 mg. t.i.d. Dosage was maintained at that level until nearly the end of a six months'

TABLE 2
HOSPITALIZATIONS

<i>Case No.</i>	<i>Diagnosis</i>	<i>Prev. Hosp.</i>	<i>Chlordiaze- poxide Therapy</i>	<i>Results</i>	<i>Comment</i>
446	Schizo. chronic undifferentiated type. Mental deficiency	On furlough	2 weeks	.....	Patient advised to return to hospital rather than lose furlough status.
950	Schizo. reaction, paranoid type	No	3 months	.....	As close to paranoid as one can find. Chlordiazepoxide maintained him as "happy ambulatory paranoid." Will have ECT and psychotherapy.
861	Schizo. acute paranoid type	No	6 weeks	.....	Did well on chlordiazepoxide but after birth of child went into postpartum psychosis.
883	Schizo. paranoid type	Yes Long history	4 weeks	.....	This schizophrenic case of long standing is one of those who would have remained in the hospital but for the advent of tranquilizers. On chlordiazepoxide he became overactive. Will probably have to stay in hospital in the future.
141	Schizo.-affective, alcohol addiction	Twice in hospital	15 days	.....	Record indicates that she will no longer maintain contact with clinic except as a means to get into the hospital.
1243	Affective reaction, psychotic depressive reaction	Yes	1 month	.....	Was sent to hospital for ECT. Chlordiazepoxide does not seem effective in this type of case.
270	Schizo. chronic undifferentiated type	Several times since 1954	3 months	Good	Mood elevated, wanted psychotherapy, ascribed better rapport to chlordiazepoxide. But hallucinations persisted, and was sent to hospital for ECT.
1052	Manic depressive, depress. type	No	10 weeks	Poor	Excellent response at first, then went into malignant depression and was hospitalized for ECT.
899	Manic depressive, manic type	Several	20 days	Poor	Became more manic.
680	Agitated depression	Yes	6 weeks	Excell.	Did extremely well on chlordiazepoxide until depressive features became accentuated, once the drug had controlled the agitation. Then ECT necessary.
1186	Personality disorder, schizoid personality	No	1 month	Good	Reactive depression required ECT. Believe chlordiazepoxide usefully prolonged ambulatory phase.

course of chemotherapy, when dosage was reduced to 25 mg. five times a day. The patient had no side effects at these dosages. Results in this case were considered excellent; the exaggerated typical obsessive-compulsive symptoms were entirely relieved. Picking up every scrap of paper, avoidance of ash trays and touching a man's hand were completely obliterated, though the patient's sexual pattern is in no way affected by chlordiazepoxide, except possibly by encouraging her to take a definite stand in favor of Lesbianism.

3. A male aged 29, previously hospitalized, with a diagnosis of severe mental deficiency and depression, was given chlordiazepoxide 10 mg. t.i.d. for 20 days. By then this patient, whose behavior had been uncontrollable prior to chlordiazepoxide medication, was stabilized and entered the vocational rehabilitation program.

4. A male aged 56 years suffered an involutional psychotic reaction with arteriosclerotic changes. He was grieving over the recent death of his wife. Given chlordiazepoxide 10 mg. b.i.d. for two months, this patient had an excellent response. It is felt that the drug saved him from a serious exogenous depression.

5. A girl aged 19 years, anxious, depressed and incoherent in her speech, gave the impression of hysteria and character behavior disorder. Much hostility was acted out towards her mother, who believed the girl was obsessed with sex, and was inclined to punish her with beatings. This patient, a well developed female of adolescent thinking and silly mannerisms, had to be escorted to her job as a transcriber, and would often sneak out of the house in the middle of the night for no reason other than to annoy her parents. She did not respond to treatment with meprobamate, and was put on chlordiazepoxide 10 mg. t.i.d. In four days she had improved so markedly that dosage was changed to 50 mg. h.s. to permit her to get back to work without needing an escort. Chlordiazepoxide therapy was continued for nearly five months, with excellent results.

6. A female aged 42 years, a schizophrenic of the reactive catatonic type, had twice been hospitalized for ECT, and had not responded to Thorazine. This patient was slovenly, indolent, tearful, and afraid of interpersonal relations, and had been uncooperative in therapy. She was put on chlordiazepoxide 30 mg. t.i.d., reduced during

four months' therapy to 20 mg. t.i.d. and finally to 50 mg. h.s. In four days the patient felt better, and has improved steadily. No side effects have resulted from chlordiazepoxide.

Discussion

Especially valuable in this population, which included several patients of low average intelligence, and others suffering exogenous depression, deteriorations of old age, or chronic physical disease was the psychostimulating action of chlordiazepoxide noted by Tobin and Lewis¹⁵ in their series. In almost all these cases the patients reported a mood elevation which enabled them to accept inevitable situations and to take positive steps toward recovery. As a result of chlordiazepoxide therapy several patients were impelled to join group therapy, and others to enter the program for vocational rehabilitation. This mood elevation was also manifested in the ability to socialize. Among the low average to mental defectives a profound expression of appreciation was noted, because chlordiazepoxide lifted them from their usual dreariness of outlook.

In manic depressives of either type and paranoid schizophrenics an occasional over-stimulating action of chlordiazepoxide was noted, an effect reported also by Kinross-Wright, et al.¹⁶ Until more studies of such patients are reported, it will be impossible to delineate the indications in this area precisely; however, since occasional instances of overstimulation have proved reversible therapy of these difficult patients is worth the calculated risk of overstimulation.

Since there is great interest in exploring the versatile and often unexpected action of chlordiazepoxide, the following effects observed in the present study are worthy of mention. Psychogenically based arterial hypertension was reduced to normal limits in a male patient aged 44 years who had reacted badly to a rauwolfia compound and phenobarbital. Memory lapses were relieved in a schizo-affective patient. Hallucinations were definitely controlled in one of two schizophrenic patients with this symptom. Mood alternations intractable to all previous medication were controlled by chlordiazepoxide; in one case the patient was a woman aged 32 years with a depressive reaction, hysteria and hypochondria who

had previously been cyclothymic and unpredictable. More familiar to psychiatrists is the potency of chlordiazepoxide in alcohol withdrawal, phobias, obsessive-compulsive disorders, conversion reactions and aggressive urges in severe character disorders. All these effects were observed in the present series.

The safety index of chlordiazepoxide is noteworthy. Patients seen only once a month may be given this drug for self medication, with the confidence that no real damage will result. Moreover, even badly disturbed patients receive such subjective proof of its beneficial effects that they may be trusted to follow the physician's instructions and take their medication. When two or three of the patients in this study failed to return at the appointed time, it was ascertained, by the second or third missed date, that they had been regularly taking chlordiazepoxide "on their own" with great benefit. In these patients and others who displayed a certain degree of independence of the psychiatrist, it may well be that the liberation from anxiety which is the paramount effect of chlordiazepoxide, has enabled the chronic psychiatric patient to hope and believe that he can get well, as one patient put it, "under my own power."

Summary

In a series of 73 patients in a psychiatric clinic the effects of chlordiazepoxide therapy over periods ranging up to six months were found to be excellent in 39 and good in 11. Many of the series were schizophrenics and other psychotic patients with a long history of illness and hospitalization. The drug was effective in relieving symptoms of anxiety, phobias, obsessive thinking and compulsive behavior, exogenous depressions, conversion reactions and other manifestations of

emotional illness. Chlordiazepoxide was less effective in cases of manic depression, psychotic depressions and paranoid-type schizophrenia. Slight and transient side effects, mostly drowsiness and ataxia, were reported by a few patients. It was noteworthy that individuals who had not responded to previous medication with one or several of the phenothiazines showed marked improvement under chlordiazepoxide therapy.

References

1. Cohen, I. M.: Drugs recently introduced in the treatment of psychiatric disorders, In: Gordon, H. L., Ed. *The New Chemotherapy in Mental Illness*, New York, Philosophical Library, 1958, p. 60.
2. Hollister, L. E.: Allergic reaction to tranquilizing drugs, *Ann. Int. Med.* 49: 17, July 1958.
3. Wortis, S. B.: Some new chemotherapeutic agents reported useful in psychiatric practice, *Postgrad. Med.* 26: 646, Nov. 1959.
4. Korst, D. R.: Agranulocytosis caused by phenothiazine derivatives, *J.A.M.A.* 170: 2076, Aug. 1959.
5. Hines, L. R.: Librium: A Psychotherapeutic Drug. *Curr. Ther. Res.* 2: 227, June 1960.
6. Bowes, H. A.: The role of Librium in an outpatient psychiatric setting, *Dis. Nerv. System* 21: 20, March 1960.
7. Harris, T. H.: Mathaminodiazepoxide, *J.A.M.A.* 172: 1162, March 12, 1960.
8. Berkwitz, N. J.: Clinical experience with Librium in private practice, *Minn. Med.* 43: 453, July 1960.
9. Pignataro, F. P.: Clinical experience with Librium in private psychiatric practice, *Clin. Med.* 7: 1133, June 1960.
10. Usdin, G. L.: Preliminary report on Librium, a new psychopharmacologic agent, *J. La. State Med. Soc.* 112: 142, April 1960.
11. Tobin, J. M., Bird, I. F., and Boyle, D. E.: Preliminary evaluation of Librium in the treatment of anxiety reactions, *Dis. Nerv. System* 21: 11, March 1960.
12. Farb, H. H.: Experience with Librium in clinical psychiatry, *Dis. Nerv. System* 21: 27, March 1960.
13. Constant, G. A.: Preliminary report on the use of a new agent in depression and tension states, *Dis. Nerv. System* 21: 37, March 1960.
14. Frain, M. K.: Physical, mental and emotional effects of Librium in hospitalized psychotic patients, *Dis. Nerv. System* 21 (8): 453, August 1960.
15. Tobin, J. H., and Lewis, N. D. C.: A new psychotherapeutic agent, chlordiazepoxide, *J.A.M.A.* 174: 1242, November 5, 1960.
16. Kinross-Wright, J., Cohen, I.M. and Knight, J.A.: The management of neurotic and psychotic states with Librium, *Dis. Nerv. System* 21: 23, March 1960.

MEETINGS

Occupational Medicine

Subject of Meeting in Grants, N.M.,

Nov. 17, 18

The Valencia County Medical Society invites all interested physicians and, particularly, members of the New Mexico Medical Society, to its Clinical Program on Occupational Medicine and the Interim Meeting of the House of Delegates of the New Mexico Medical Society, in Grants, November 17 and 18, 1961.

Since Grants is located in the center of the Uranium mining industry, the Valencia County Medical Society selected a clinical program on Occupational Medicine to be presented at the New Mexico Medical Society's Interim session. The clinical program is designed to be of interest to general practitioners as well as specialists. Four outstanding speakers who have devoted their medical careers to Occupational Medicine have been selected to present the program.

Friday, November 17

8:00 am Registration, Zuni Mountain Country Club. Registration Fee — \$15.00 (Members) and \$25.00 (Member and wife)
Lewis M. Overton, M.D., Albuquerque, Presiding

9:00 am Occupational Medicine and General Practice
Kieffer Davis, M.D., Bartlesville, Okla., Past President, Industrial Medical Association; Board Member for Certification for Preventative Medicine; and Chief Surgeon for Phillips Petroleum Company.

9:30 am Disability Evaluation
Earl McBride, M.D., Oklahoma City; Head of Orthopedics, McBride Clinic; Author of "Disability Evaluation."

10:00 am Movie: Hypoxia

10:30 am Factors Involved in Air Transportation
Lewis C. Benesh, M.D., Denver; District Medical Director, United Air Lines; President, Rocky Mountain Academy of Industrial Medicine; Chairman, Occupational Medicine for Colorado.

11:00 am I've Got a Disc
John McDonald, M.D., Tulsa; Head of Orthopedic Clinic and Orthopedic Medicine, St. John's Hospital; Past President, Oklahoma State Medical Association; Member, AMA Legislative Committee.

11:30 am Panel Discussion

12:00 n Luncheon, Zuni Mountain Country Club

2:00 pm House of Delegates Meeting, First Session

2:30 pm Uranium Mill Tour

7:00 pm Cocktails, Zuni Mountain Country Club

8:00 pm Banquet — Social Program

Saturday, November 18

James N. Dudley, M.D., Albuquerque, Presiding

9:00 am Occupational Medicine in the Aviation Industry
Lewis C. Benesh, M.D.

9:30 am A Vascular Necrosis of the Head of the Femur
John McDonald, M.D.

10:00 am Movie: Can't I Fly? Should I Fly? May I Fly?

10:30 am Disability and Pre-Existing Disease
Earl McBride, M.D.

11:00 am Rewards and Pitfalls of Industrial Medicine
Kieffer Davis, M.D.

11:30 am Panel Discussion

12:00 n Luncheon, Zuni Mountain Country Club

2:00 pm House of Delegates Meeting, Second Session

5:00 pm Mill Tour or Tour to Inscription Rock

Auxiliary Program

Zuni Mountain Country Club

Friday, November 17

10:00 am Business Meeting and Coffee in the home of Dr. and Mrs. M. A. Connell.

Mrs. Stanley J. Leland, President, Auxiliary to the New Mexico Medical Society, Presiding

12:00 n Lunch and Entertainment, Zuni Mountain Country Club

5:00 pm Mill Tour

7:00 pm Cocktails and Banquet
Banquet Program: Introduction of guests; Commentary and History of Inscription Rock; El Morro and Laguna Indian Dancers

Saturday, November 18

10:00 am Board Meeting

12:00 n Luncheon and Entertainment
Zuni Mountain Country Club

2:30 pm Tour of Inscription Rock (El Morro)

Phonatrace Links Patient, Cardiologist Via Phone

Instantaneous transmission of electrocardiograms to a cardiologist from a remotely located patient is now possible via regular telephone lines with Phonatrace, a new, two-unit electronic system introduced by the Birtcher Corporation, Los Angeles.

The Phonatrace transmitter, attached to the reporting electrocardiograph machine, converts the electrical impulses of the heart into audible, high frequency, FM signals. The FM signals are broadcast into a telephone mouthpiece and induced into the receiving unit through a telephone ear-

piece. In the Phonatrace receiver, which is attached to the recording ECG machine, the FM signals are reconverted into electrical impulses which record a tracing identical to the original. The system's accuracy has been demonstrated in transmissions over land along more than 3,000 miles of telephone line and over water by wireless telephone.

Because the transmission signal is in the audible sound range, several ECG tracings can be recorded on tape and transmitted at one time.

Generic Drug Names

Called Health Risk

Passage of legislation requiring pharmaceuticals to be sold under generic names would place public health in jeopardy and stifle research programs financed by manufacturers of brand-name drugs, the Massachusetts Medical Society was told recently.

Furthermore, warned Dr. Theodore G. Klumpp, president of Winthrop Laboratories, if Congress were to enact such a law it would be a powerful thrust in socializing health services in the United States.

Dr. Klumpp, a member of the Corporation of Peter Bent Brigham Hospital, served as chairman of the Hoover Commission Medical Services Task Force on Organization of the Executive Branch of Government. He addressed the Massachusetts Medical Society on occasion of its 180th annual meeting in Boston.

All drugs containing the same active ingredients are not identical, the physicians were told. Noting that much more goes into a drug than the active ingredients, Dr. Klumpp said:

"Drugs having the same active ingredients and subject to the same standards may vary in more than 24 different respects and still be entitled to share the same generic name. These variations may make a decisive difference in the action of the drug."

Human Life at Stake

When human life is at stake, the strength, purity and quality of a drug is a matter of critical importance.

The substitution of generic names for brand names would discourage investment in scientific research.

"Little incentive remains for a pharmaceutical manufacturer to engage in research when, if successful, the resulting product cannot be identified by the manufacturer's trademark or brand name," Dr. Klumpp stated.

Referring to the charge that the industry produces an overabundance of drugs, Dr. Klumpp said:

"Despite all the seeming inefficiencies of free competition, I would rather be deluged with more drugs than I know how to use than be forced to sit idly at the bedside of a patient, doing nothing because there are not enough drugs to save lives or, at the very least, to bring comfort to my patients."

Aerobiology Research

A new program in aerobiology and virus research has been initiated by The University of Arizona's Department of Microbiology and Medical Technology.

Under the direction of Dr. Kenneth F. Wertman, head of the department and principal investigator, the three-year program is supported by a grant of \$64,442 from the U.S. Department of the Army, of which \$19,820 has been allocated for the first year. In addition, equipment valued at \$40,000 has been made available on indefinite loan for use in the program, Wertman said.

"This is a very different kind of training and research program," Dr. Wertman said. "There probably is not a similar one in progress at any other American university."

Two Phases

He explained that aerobiology "is study of the microorganisms in air." The first phase of the program will deal with the study of these airborne microorganisms and of the influences of environment such as temperature and humidity on their activity.

"The second phase concerns air pollution," Wertman said. "We are interested in establishing controlled environments containing air pollutants and determining the effects of prolonged exposure to these pollutants with respect to susceptibility to infection. The third phase will concern restudy of the pathogenesis of specific virus diseases when the natural route of airborne infection is followed rather than artificial methods of infection used previously in studies of specific virus diseases," he added.

"Very few people in the nation are trained in aerobiology techniques," Wertman explained. "The program must therefore provide knowledge, training, and research experience for graduate students and faculty members."

Serum Hepatitis Virus Isolated

Isolation of the virus which causes serum hepatitis has been announced by Bolin Laboratories and Southwest Blood Banks, both of Phoenix.

Prevention of transmitting the disease through blood transfusions has now become a distinct possibility, Vern Bolin, M.S., Director of Bolin Laboratories, said.

Results of the two-year study promise development of a test to determine whether a blood donor is a carrier of serum hepatitis, according to John B. Alsever, M.D., Medical Director of Southwest Blood Banks. "No such test has yet been devised," Dr. Alsever said, "and the possibility of transmitting serum hepatitis to the patient always has been a risk in the use of blood transfusions."

The study was conducted with serum hepatitis virus obtained from volunteers and from a patient ill with serum hepatitis. The volunteers became ill with hepatitis following injection of plasma known to be contaminated with the virus, but all have since recovered, Bolin said.

Identity Established

Identity of the virus recovered from the volunteers was established by cross neutralization experiments with specific neutralizing antiserum. The antiserum was produced in animals from tissue culture virus, blood of volunteers, virus-contaminated plasma used to inject the volunteers, and blood from a patient with serum hepatitis. Also, specific neutralizing antiserum was found in the volunteers after recovery from the illness.

The human virus successfully grown in tissue culture produced a fatal disease in newborn mice, Bolin said. Virus was then recovered from the livers of the dead mice and grown in tissue culture, demonstrating that it was the serum hepatitis virus which produced death in the mice.

The virus of infectious hepatitis also was grown in tissue culture and used to produce animal antibodies. Experiments with the two virus materials demonstrated that serum hepatitis and infectious hepatitis viruses are different, but closely related.

Another important significance of the work, Bolin said, is that diagnostic use in patients ill with liver disease also is a possibility.

Coming Meetings

University of Texas Postgraduate School of Medicine, El Paso Division, Postgraduate Course, Gastroenterology, El Paso County Medical Society Turner Home, 1301 Montana Ave., El Paso, Nov. 19, 1961.

American Society of Hematology, Fourth Annual Meeting, Hotel Ambassador, Los Angeles, Nov. 27-29, 1961.

University of Colorado Medical Center, Eighth Annual General Practice Review, Denver, Jan. 7-13, 1962.

International Medical Assembly of Southwest Texas, 26th Annual Session, Granada Hotel, San Antonio, Jan. 29-31, 1962.

STAFF PHYSICIAN

Accredited 249 bed hospital, thoracic diseases,
general medicine and surgery,
State approved Rehabilitation Center.

Starting salary \$766/\$817.

If experienced in general surgery,
starting salary \$913/965.

Modern furnished house for family included.

TULARE-KINGS COUNTIES HOSPITAL

Springville

California

FISCHBEIN BROS.
CUSTOM TAILORS

309 N. Oregon St.

El Paso, Texas

SOUTHWESTERN MEDICINE



Southwestern Physicians' Directory



SAUL B. APPEL, M.D.

Certified by the American Board of Internal Medicine

CARDIOVASCULAR DISEASES

Suite 10E KE 3-5201 EL PASO MEDICAL CENTER 1501 Arizona Ave.
El Paso, Texas

ARTESIA MEDICAL CENTER

Phone:

Henry L. Wall, M.D., Suite A SH 6-2311
General Practice
Robert W. Harper, M.D., Suite B SH 6-2531
Surgery and Gynecology
Owen C. Taylor, Jr., M.D., Suite C SH 6-2521
General Practice
C. Pardue Bunch, M.D., Suite D SH 6-3321
General Practice
Gerald A. Slusser, M. D., Suite E SH 6-2441
Surgery
X-ray and Medical Laboratory SH 6-4200
Fourth and Washington Artesia, New Mexico

ANDREW M. BABEY, M. D.

Certified by the American Board of Internal Medicine

CARDIOVASCULAR DISEASES

250 West Court Avenue JACKSON 4-4481 Las Cruces, N. M.

OTTO L. BENDHEIM, M. D.

DIPLOMATE AMERICAN BOARD OF PSYCHIATRY &
NEUROLOGY

5051 N. 34th Street 264-4111 Phoenix, Arizona

RAYMOND J. BENNETT, M. D.

Diplomate of the American Board of Neurology and Psychiatry

PRACTICE LIMITED TO NEUROPSYCHIATRY

Suite 7A El Paso Medical Center 1501 Arizona Avenue
Phone KE 2-1177 El Paso, Texas

JACK A. BERNARD, M.D., F.A.C.P.

Diplomate American Board Internal Medicine

INTERNAL MEDICINE

CARDIOVASCULAR DISEASES

Suite 3C El Paso Medical Center 1501 Arizona Avenue
Phone KE 3-8151 El Paso, Texas

VICTOR M. BLANCO, M.D.

Diplomate of the American Board of Surgery

GENERAL AND CANCER SURGERY

205 University Towers Building

1900 N. Oregon St. KE 3-5519 El Paso, Texas

CLEMENT C. BOEHLER, M. D., F.A.C.S.

H. W. DEMAREST, M.D., F.A.C.S.

Diplomates American Board Obstetrics and Gynecology

Suite 8-A Medical Center 1501 Arizona Avenue
Phone KE 2-6591 El Paso, Texas

FREDERICK P. BORNSTEIN, M.D.

Certified by the American Board of Pathology
in Pathologic Anatomy and Forensic Pathology

102 University Towers Bldg.

1900 N. Oregon St. KE 2-3901 El Paso, Texas

LOUIS W. BRECK, M.D.

W. COMPERE BASOM, M.D.

MORTON H. LEONARD, M.D.

MARIO PALAFOX, M.D.

ZIGMUND W. KOSICKI, M.D.

ADRIAN L. GRASS, M.D.

The El Paso Orthopaedic Surgery Group

1220 N. Stanton St. Telephone KE 3-7465 El Paso, Texas

ROBERT J. CARDWELL, M.D.

(Diplomate American Board of Obstetrics and Gynecology)

608 University Towers Building

1900 N. Oregon St. KE 3-7587 El Paso, Texas

ROBERT N. CAYLOR, M.D.

Practice Limited to Ophthalmology

508 University Towers Building

1900 N. Oregon St. KE 3-4909 El Paso, Texas

WILLIAM I. COLDWELL, M.D.

Certified by the American Board of Internal Medicine

INTERNAL MEDICINE

501 University Towers Building

1900 N. Oregon St. KE 2-2661 El Paso, Texas

BRANCH CRAIGE, M.D., F.A.C.P.

(Certified by American Board of Internal Medicine)

INTERNAL MEDICINE

Suite 5B El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-7121 El Paso, Texas



Southwestern Physicians' Directory



E. S. CROSSETT, M.D.

Diplomate American Board of Thoracic Surgery

GEORGE W. IWEN, M.D.
THORACIC SURGERY

Cardiovascular Surgery Broncho-Esophagology
Suite 11-D KE 3-8511 or KE 2-2474 1501 Arizona Ave.
El Paso Medical Center El Paso, Texas

WICKLIFFE R. CURTIS, M. D., F.A.C.S.

JAMES D. BOZZELL, M.D., F.A.C.S.

Diplomates American Board of Urology

PRACTICE LIMITED TO UROLOGY

Suite 3B El Paso Medical Center 1501 Arizona Avenue
Phone KE 3-1426 El Paso, Texas

RITA L. DON, M.D.

Allergy

102 University Towers Building

1900 N. Oregon St. KE 2-3901 El Paso, Texas

ANTONIO DOW, M.D., F.A.C.S.

(Diplomate of American Board of Surgery)

GENERAL SURGERY

205 University Towers Building

1900 N. Oregon St. KE 2-7305 El Paso, Texas

HAROLD D. DOW, M.D.

FREDERICK J. KOBERG, M.D.

General Practice — Surgery

Box 456
702 Hobbs Road Phone 3641 Seminole, Texas

H. EDWARD DOWNS, M.D.

Internal Medicine

511 University Towers

1900 N. Oregon St. KE 2-9664 El Paso, Texas

JOHN A. EISENBEISS, M.D., F.A.C.S.

WILLIAM B. HELME, M.D.

Diplomates of the American Board of Neurological Surgery

NEUROSURGERY

926 E. McDowell Road AL 4-3151 Phoenix, Arizona

WARD EVANS, M.D., F.A.C.S.

(Diplomate American Board of Surgery)

SURGERY

608 University Towers Building

1900 N. Oregon St. KE 3-7587 El Paso, Texas

LESTER C. FEENER, M.D., F.A.C.P.

Diplomate American Board of Internal Medicine

INTERNAL MEDICINE

CARDIOVASCULAR DISEASES

404 Banner Bldg. KE 2-5771 El Paso, Texas

ALBERT A. GEMOETS, M.D.

Member American Academy of General Practice

GENERAL PRACTICE

3726 1/2 Alameda Ave. KE 3-7689 El Paso, Texas

H. M. GIBSON, M.D., F.A.C.S.

Certified by American Board of Urology

PRACTICE LIMITED TO UROLOGY

512 University Towers Building

1900 N. Oregon St. KE 2-8130 El Paso, Texas

L. A. GLADSTONE, M.D.

W. D. FEINBERG, M.D.

INTERNAL MEDICINE

Bldg. 14, Suite D 1501 Arizona Ave.
El Paso Medical Center KE 3-2508 El Paso, Texas

JAMES J. GORMAN, M.D., F.A.C.P.

Diplomate American Board of Internal Medicine

DIAGNOSIS — GASTROENTEROLOGY

701 First National Building KE 2-6221 El Paso, Texas

J. LEIGHTON GREEN, M.D., F.A.C.S.

GENERAL and GYNECOLOGICAL SURGERY

Suite 3A El Paso Medical Center 1501 Arizona Avenue
Phone KE 2-9790 El Paso, Texas

SOL HEINEMANN, M.D., F.A.C.S.

Diplomate, American Board of Urology

UROLOGY

212 University Towers Bldg.

1900 N. Oregon St. LI 2-1539 El Paso, Texas

SOLOMON HELLER, M.D.

INTERNAL MEDICINE

Hematology—Endocrinology

505 University Towers Building

1900 N. Oregon St. KE 3-0406 El Paso, Texas



in bacterial
otitis
media

Panalba*
promptly
to gain precious
therapeutic
hours

In the presence of bacterial infection, taking a culture to determine bacterial identity and sensitivity is desirable—but not always practical.

A rational clinical alternative is to launch therapy at once with Panalba, the antibiotic that provides the best odds for success.

Panalba is effective (in vitro) against 30 common pathogens, including the ubiquitous staph. Use of Panalba *from the outset* (even pending laboratory results) can gain precious hours of effective antibiotic treatment.

SUPPLIED: Capsules, each containing Panmycin* Phosphate (tetracycline phosphate complex), equivalent to 250 mg. tetracycline hydrochloride, and 125 mg. Albamycin,* as novobiocin sodium, in bottles of 16 and 100.

USUAL ADULT DOSAGE: 1 or 2 capsules 3 or 4 times a day.

SIDE EFFECTS: Panmycin Phosphate has a very low order of toxicity comparable to that of the other tetracyclines and is well tolerated clinically. Side reactions to therapeutic use are infrequent and consist principally of mild nausea and abdominal cramps.

Albamycin also has a relatively low order of toxicity. In a certain few patients, a yellow pigment has been found in the plasma. This pigment, apparently a metabolic by-product of the drug, is not necessarily associated with abnormal liver function tests or liver enlargement.

Urticaria and maculopapular dermatitis, and a few cases of leukopenia have been reported in patients treated with Albamycin. These side effects usually disappear upon discontinuance of the drug.

CAUTION: Since the use of any antibiotic may result in overgrowth of nonsusceptible organisms, constant observation of the patient is essential. If new infections appear during therapy, appropriate measures should be taken. Total and differential blood counts should be made routinely during prolonged administration of Albamycin. The possibility of liver damage should be considered if a yellow pigment, a metabolic by-product of Albamycin, appears in the plasma. Panalba should be discontinued if allergic reactions that are not readily controlled by antihistaminic agents develop.

*Trademark, Reg. U. S. Pat. Off.

Copyright 1961, The Upjohn Company

Panalba
your broad-spectrum
antibiotic of first resort.



Upjohn

75th year

The Upjohn Company
Kalamazoo, Michigan



Southwestern Physicians' Directory



DRS. HART, BOVERIE, BLACK,
CLAYTON, GREEN & WHITE
PATHOLOGICAL AND CLINICAL LABORATORIES
X-RAY DIAGNOSIS AND THERAPY

Radioactive
Isotopes

Cobalt
Beam Therapy

Pathology

M. S. HART, M.D.

C. L. GREEN, M.D.

Diplomates American Board of Pathology

R. F. BOVERIE, M.D.

G. L. BLACK, M.D.

R. S. CLAYTON, M.D.

J. E. WHITE, M.D.

Diplomates American Board of Radiology

MELVIN A. LYONS, M.S.H.A.

Business Manager

El Paso Medical Center
1501 Arizona Ave., Suite 2A
KE 3-4478

Medical Arts Building
415 E. Yandell Drive, Suite 105
KE 3-6926

EL PASO, TEXAS

HERBERT E. HIPPS, M.D.

ORTHOPEDIC SURGERY

1612 Columbus Ave.

4-4701

Waco, Texas

RUSSELL HOLT, M.D.
B. LYNN GOODLOE, M.D.

GENERAL and GYNECOLOGICAL SURGERY

MEDICAL ARTS BUILDING

415 East Yandell Blvd.

KE 3-3443

El Paso, Texas

RALPH H. HOMAN, M.D., F.A.C.P.

CARDIOLOGY

ROBERT B. HOMAN, JR., M.D., F.A.C.S.

DISEASES OF THE CHEST — THORACIC SURGERY

Suite 7D El Paso Medical Center
Phone KE 3-1409

1501 Arizona Avenue
El Paso, Texas

GEORGE W. HORTON, M.D.

JOSEPH D. McGOVERN, JR., M.D.

PRACTICE LIMITED TO ORTHOPEDICS

513 West 4th

FEderal 2-0183

Odessa, Texas

LOUIS G. JEKEL, M.D.

ROBERT H. SNAPP, M.D.

Diplomates American Board of Dermatology

DERMATOLOGY

550 W. Thomas Rd.

CR 4-4901

Phoenix, Ariz

W. A. JONES, M.D.

Diplomate American Board of Neurological Surgery

K. ZOLFOGHARY, M.D.,

NEUROLOGICAL SURGERY

Suite 1C

El Paso Medical Center

1501 Arizona Avenue

KE 2-7579, KE 3-9076

El Paso, Texas

G. H. Jordan, M.D., F.A.C.S.

C. E. Webb, M.D., F.A.C.S.

DRS. JORDAN AND WEBB

Diplomates American Board of Surgery

GENERAL and GYNECOLOGICAL SURGERY

Suite 7B

El Paso Medical Center

1501 Arizona Ave.

Phone KE 2-1693

El Paso, Texas

LINDELL M. KINMAN, M.D.

Diplomate American Board of Urology

UROLOGY

300 West Alameda

Phone MA 2-4111

Roswell, N. Mex.

M. NATHAN KLEBAN, M.D.

Certified by American Board of Internal Medicine

Internal Medicine

610 University Towers Building

1900 N. Oregon St.

KE 2-7079

El Paso, Texas

GILBERT LANDIS, M.D., F.A.C.S.

Diplomate American Board of Obstetrics & Gynecology

OBSTETRICS, GYNECOLOGY
and GYNECOLOGICAL SURGERY

Suite 15-D

KE 3-5023

1501 Arizona Ave.

El Paso Medical Center

El Paso, Texas

ROYCE C. LEWIS, JR., M.D.

Diplomate American Board of Orthopedic Surgery

ORTHOPEDIC SURGERY and SURGERY OF THE HAND

1910 Knoxville St.

PO 3-8281

Lubbock, Texas

A. L. LINDBERG, M.D.

Neoplastic Diseases

TUCSON TUMOR CLINIC

721 N. 4th Ave.

MA 3-2531

Tucson, Arizona

CHARLES P. C. LOGSDON, M.D.

CARDIOLOGY

415 E. Yandell Blvd.

KE 3-7916

El Paso, Texas



Southwestern Physicians' Directory



TRUETT L. MADDOX, D.D.S.

ORAL SURGERY

Suite 9A El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-3659 El Paso, Texas

WALTER B. MANTOOTH, JR., M.D.

JOE H. LEHMAN, M.D.
Dermatology and Cancer of the Skin

Suite 101 Lubbock
3801 19th Street Swift 9-4359 Texas

GEORGE B. MARKLE, IV, M.D.

Diplomate of the American Board of Surgery

GENERAL and GYNECOLOGICAL SURGERY

911 North Canal TU 5-5240 Carlsbad, New Mexico

MARSHALL CLINIC

I. J. Marshall, M.D.
General Surgery and Diagnosis
U. S. Marshall, M.D.
General Surgery and General Practice
E. A. Latimer, M.D.
General Practice
C. H. Fowler, M.D.
Internal Medicine and Cardiology
Thomas J. Jones, M.D.
Diseases of the Skin and Allergies
H. D. Johnson, Jr., D.D.S.

ROSWELL NEW MEXICO

HOWARD J. H. MARSHALL, M.D.

Member American Academy of General Practice

GENERAL PRACTICE

Suite 8E 1501 Arizona Avenue
El Paso Medical Center KE 2-2431 El Paso, Texas

JAMES R. MORGAN, M.D.

Certified by American Board of Obstetrics & Gynecology

OBSTETRICS and GYNECOLOGY

Suite 3A El Paso Medical Center 1501 Arizona Ave.
KE 3-2265 El Paso, Texas

A. WILLIAM MULTHAUF, M.D., F.A.C.S.

UROLOGICAL DIAGNOSIS AND SURGERY

1315 First National Bldg. KE 3-8986 El Paso, Texas

WALLACE E. NISSEN, M.D., F.A.C.S.

W. W. KRIDELBAUGH, M.D., F.A.C.S.

GENERAL SURGERY

Medical Arts Square
801 Encino Place, Suite 35 3-2251 Albuquerque, N. M.

F. KEITH OEHLISCHLAGER, M.D.

OBSTETRICS & GYNECOLOGY

1167 E. 42nd St. Sherwood Medical Center Phone
Suites 5 & 6 Odessa, Texas EM 6-4447

THE ORTHOPEDIC CLINIC

ORTHOPEDIC SURGERY

W. A. Bishop, Jr., M.D., F.A.C.S.*
Alvin L. Swenson, M.D., F.A.C.S.*; Ray Fife, M.D., F.A.C.S.*
Sidney L. Stovall, M.D., F.A.C.S.*
Thomas H. Taber, Jr., M.D., F.A.C.S.*; Robert A. Johnson, M.D.
*Diplomates of the American Board of Orthopedic Surgery
2620 N. Third St. CRestwood 7-6211 Phoenix, Arizona

JAMES M. OVENS, M.D.

F.A.C.S., F.I.C.S.

Diplomate American Board of Surgery

CANCER AND TUMOR SURGERY
X-RAY AND RADIUM THERAPY

333 W. Thomas Road 279-7301 Phoenix, Ariz.

ROBERT E. PARKINS, D.D.S.

GENERAL DENTISTRY

8ldg. 1, Suite E 1501 Arizona Ave.
Phone KE 3-1245 El Paso Medical Center El Paso, Texas

JACK C. POSTLEWAITE, M.D.

Diplomate American Board of Internal Medicine

INTERNAL MEDICINE

Suite 5D 1501 Arizona Ave.
El Paso Medical Center KE 2-1385 El Paso, Texas

DONALD RATHBUN, M.D.

NEUROLOGY

and

Internal Medicine

Suite 4B KE 2-8778 1501 Arizona Ave.
El Paso Medical Center El Paso, Texas

VINCENT M. RAVEL, M.D.

GLEN A. STOKDYKE, M.D.

Diplomates American Board of Radiology

Radiology — Radio-Isotopes

Cobalt⁶⁰ — Teletherapy

101 University Towers 8ldg.

El Paso KE 2-3459 Texas



Southwestern Physicians' Directory



HERMAN RICE, M.D.

Practice Limited to General Surgery

El Paso Medical Center

Bldg. 4-B

Phone KE 3-8051

1501 Arizona Ave.

El Paso, Texas

RISSLER-WOLLMANN CLINIC

ROSS W. RISSLER, M.D., F.A.C.C.

(Certified by the American Board of Internal Medicine)
INTERNAL MEDICINE — CARDIOLOGY

WALTER W. WOLLMANN, M.D., F.A.C.S.

(Certified by the American Board of Surgery)
GENERAL SURGERY

2001 Grant Ave.

KE 3-1601

El Paso, Texas

CECIL A. ROBINSON, M.D., F.A.C.S.

Diplomate American Board of Orthopaedic Surgery

Orthopaedic Surgery

111 No. Pine Street

JU 6-2541

Kermit, Texas

S. PERRY ROGERS, M.D.

W. HUNTER VAUGHAN, M.D.

(Diplomates American Board of Orthopedic Surgery)
ORTHOPEDIC SURGERY

Suite 2B

El Paso Medical Center

1501 Arizona Ave.

Phone KE 2-4433

El Paso, Texas

WILLARD W. SCHUESSLER, M.D.

DONALD H. EWALT, M.D.

Diplomates of the American Board of Plastic Surgery
Plastic, Reconstructive Surgery and
Maxillo-facial Surgery

1501 Arizona Ave.

Medical Center, Suite 4-C

El Paso, Texas

F. P. SCHUSTER, M.D.

S. A. SCHUSTER, M.D.

NEWTON F. WALKER, M.D.

BRADFORD HARDIE, M.D.

EYE, EAR, NOSE AND THROAT-BRONCHOSCOPY

First National Bldg.

KE 2-1495

El Paso, Texas

O. J. SHAFFER, D.D.S., F.A.C.D.

(Diplomate American Board of Oral Surgery)

ORAL SURGERY

Suite 1D

El Paso Medical Center

1501 Arizona Ave.

Phone KE 3-6742

El Paso, Texas

D. J. SIBLEY, JR., M.D.

GENERAL PRACTICE

Box 367

Phone 5B4

Ft. Stockton, Texas

EUGENE P. SIMMS, M.D.

— GENERAL PRACTICE —

Medical Arts Center

1213 Tenth Street

Hemlock 7-1720

Alamogordo, N. M.

Leslie M. Smith, M.D.

H. D. Garrett, M.D.

John C. Wilkinson, M.D.

DRS. SMITH, GARRETT & WILKINSON

Diplomates American Board of Dermatology

DISEASES OF THE SKIN

Suite 3D

El Paso Medical Center

1501 Arizona Ave.

Phone KE 3-6172

El Paso, Texas

C. M. STANFILL, M.D.

Diplomate American Board of Otolaryngology

EAR, NOSE AND THROAT

Stapes Mobilization

507 University Towers Building

1900 N. Oregon St.

KE 2-9449

El Paso, Texas

ROBERT HEALY STEVENS, B.S., M.D.

F.C.C.P.

ALLERGY — INTERNAL MEDICINE

1313 N. Second St.

AL 4-8841

Phoenix, Arizona

C. S. STONE, M.D., F.A.C.S.

EXpress 3-5323

301 East Cain Street

Hobbs, N.M.

JESSON L. STOWE, M.D.

GRAY E. CARPENTER, M.D.

GYNECOLOGY AND OBSTETRICS

2323 Montana Avenue

KE 2-4631

El Paso, Texas

WINSLOW P. STRATEMEYER, M.D.

Diplomate American Board of Neurological Surgery

NEUROLOGICAL SURGERY

Suite 11A

Office KE 2-9167

1501 Arizona Ave.

El Paso Medical Center

Home JU 4-0553

El Paso, Texas



who
coughed?

WHENEVER COUGH THERAPY
IS INDICATED

HYCOMINE[®]

Syrup

THE COMPLETE Rx FOR COUGH CONTROL

*cough sedative / antihistamine
nasal decongestant / expectorant*

- relieves cough and associated symptoms in 15-20 minutes
- effective for 6 hours or longer
- promotes expectoration
- rarely constipates
- agreeably cherry-flavored

Each teaspoonful (5 cc.) of HYCOMINE[®] Syrup contains:
Hycodan[®]

Dihydrocodeinone Bitartrate	5 mg.	} 6.5 mg.
(Warning: May be habit-forming)		
Homatropine Methylbromide	1.5 mg.	

Pyrilamine Maleate	12.5 mg.
Phenylephrine Hydrochloride	10 mg.
Ammonium Chloride	60 mg.
Sodium Citrate	85 mg.

Average adult dose: One teaspoonful after meals and at bedtime. May be habit-forming. Federal law permits oral prescription.

Literature on request

Endo[®]

ENDO LABORATORIES
Richmond Hill 18, New York



Southwestern Physicians' Directory



ROBERT F. THOMPSON, M.D., F.A.C.S.

(Certified by American Board of Urology)

UROLOGY

301 University Towers Building

1900 N. Oregon St. KE 2-4321 El Paso, Texas

TURNER'S CLINICAL & X-RAY LABORATORIES

GEORGE TURNER, M.D.

DELPHIN von BRIESEN, M.D.

HELEN W. ANDERSON, M.D.

MEDICAL CENTER

1501 Arizona Ave.
Building No. 6

Phone: KE 2-4689
El Paso, Texas

HARRY H. VARNER, M.D.

LEIGH E. WILCOX, M.D.

RUSSELL L. DETER, M.D.

GENERAL SURGERY

Suite 5E

Phone KE 2-6529

El Paso Medical Center

1501 Arizona Ave.

El Paso, Texas

WILLIAM H. WADE, M.D., F.A.C.S.

Diplomate American Board of Surgery

GENERAL SURGERY

CARDIOVASCULAR SURGERY

El Paso Medical Center, 15-B

1501 Arizona Ave. KE 2-8111 El Paso, Texas

3500 Physicians Read Southwestern Medicine

RICHARD P. WAGGONER, M.D.

M.S. (SURG.), F.A.C.S.

GENERAL SURGERY

504 N. Richardson St. Phone 208 Roswell, N. M.

GRADY M. WALLACE, M.D., D.A.B.O.

Practice Limited to the Eye

3801 19th Street SW 9-4343 Lubbock, Texas

Hotel Dieu, Sister's Hospital

Fully Approved by the
Joint Commission on Accreditation
of Hospitals.

Latest Facilities For All Services.
Emergency Service Around
the Clock.

EL PASO, TEXAS

Hotel Dieu School of Nursing

Fully approved by the
National Nursing Accrediting
Service.

Applicants May Apply
To
Sister Aloysius, Director

EL PASO, TEXAS

Hotel Dieu School of Medical Technology

Fully Approved by the American
Medical Association, American
Society of Clinical Pathologists,
and Registry of Medical Tech-
nologists.

EL PASO, TEXAS

The Clinic-Hospital of San Angelo

D. D. WALL, M.D.
Obstetrics & Gynecology

R. M. FINKS, M.D.
Pediatrics

M. D. KNIGHT, M.D.
Surgery

W. H. BRAUNS, M.D.
Internal Medicine

ROY E. MOON, M.D.
Obstetrics & Gynecology

CHAS. F. ENGELKING, M.D.
Ear, Nose and Throat

DALE W. HAYTER, M.D.
Ophthalmology

R. A. MORSE, M.D.
Internal Medicine

RALPH R. CHASE, M.D.
Pediatrics

TOM R. HUNTER, M.D.
Surgery

H. W. DISERENS, M.D.
Pediatrics

Consultant in Pathology: LLOYD R. HERSHBERGER, M.D.

Consultants in Radiology: JOHN E. BALLARD, M. D.; JOHN G. BOLEN, M.D.

224-234 W. BEAUREGARD AVE.

J. B. ADCOCK, Administrator

SAN ANGELO, TEXAS



Southwestern General Hospital

Accredited by the Joint Commission on Accreditation of Hospitals

Member Hospital:

American Hospital Association
Texas Hospital Association
Blue Cross of Texas

•

COTTON AVENUE AND ERIE STREET • EL PASO, TEXAS

OVERTON CLINIC

300 Hughes Building

PAMPA, TEXAS

M. C. Overton, Jr., M.D.
Surgery and Gynecology

E. S. Williams, M.D.
Pediatrics and Obstetrics

J. R. Donaldson, M.D.
Surgery

G. R. Hrdlicka, M.D.
Radiology

C. M. Lang, M.D.
Surgery

R. W. Moore, M.D.
Internal Medicine

DUTTON LABORATORIES

FREDERICK P. BORNSTEIN, M.D.
(Certified by American Board of Pathology)
Pathological Anatomy and Forensic Pathology

RITA L. DON, M.D.
(Associate Fellow, American College of Allergists)
Allergy and Clinical Pathology

JOHN B. FRERICHS, M.D.
(Certified by American Board of Pathology)
Pathological Anatomy and Clinical Pathology

J. A. HANCOCK, Ph.D.
Consultant in Chemistry

616 Mills Bldg.
102 University Towers

KE 2-3901
El Paso, Texas

Give Us A Trial On Your

TAYLOR BACK BRACE

Orders

- Send the following measurements: from level of shoulders to tip of sacrum; circumference of pelvis above trochanters; circumference of waist; height and weight.

CHRISTOPHER'S BRACE AND LIMB CO.

2231 Montana St.

KE 2-9690

EL PASO, TEXAS

UNIFORMS

Doctors • Nurses • Interns • Technicians
Poplin, Nylon, Dacron
White and Colors

SURE-FIT UNIFORM CO.

412 N. Oregon St.

KE 2-1374

El Paso, Texas

C. G. McDow and Son, Props.

Rio Grande Pharmacy

419-421 South Stanton St.

KE 2-4473

El Paso, Texas

Only at the Popular in El Paso . . .

FINE HARTMANN LUGGAGE

POPULAR DRY GOODS CO.



GUNNING & CASTEEL DRUG STORES

"There is no finer prescription service . . . anywhere"

14 Conveniently Located Stores

El Paso, Texas

TAYLOR-SIMPKINS, INC.


MEDICAL OXYGEN

2123 Texas St.

KE 3-0952

El Paso, Texas

Nights — Call LO 5-0359, or LO 5-3060



**MEDICAL CENTER
PHARMACY**
YOUR PROFESSIONAL PHARMACY
IN THE EL PASO MEDICAL CENTER

1501
ARIZONA AVE. PHONE KE 2-6968-69 EL PASO,
TEXAS

We Carry A Complete Line of

DIABETIC FOODS AND SUPPLIES

McKEE PRESCRIPTION PHARMACY

107 East San Antonio Ave., El Paso

Dial KE 2-2693

For Your Convenience

Use Our Handy Charge-A-Plate Service!

the white house

El Paso, Texas

RICHARD E. MARTIN

MARTIN MORTUARY

Dial KE 2-3691

710 N. Stanton St.

El Paso, Texas

HARDING AND ORR *Funeral Home*

EL PASO, TEXAS

320 Montana Ave.

KE 3-1646

Kaster & Maxon

Funeral Home

El Paso, Texas

KE 2-3431



Occupational therapist guides patient in newly acquired hobby of making artificial flowers. All patients at Camelback Hospital are encouraged to participate in constructive hobbies as another integral part of their rehabilitation program, according to doctor's instructions. Hobbies may be pursued outdoors in the scenic recreation area or in the special hobby workshop in the hospital.

Located in the heart of the beautiful Phoenix citrus area near picturesque Camelback Mountain, the hospital is dedicated exclusively to the treatment of psychiatric and psychosomatic disorders, including alcoholism.

Approved by the Joint Commission on Accreditation of Hospitals; and The American Psychiatric Association

Camelback Hospital

5055 North 34th Street
AMherst 4 4111
PHOENIX, ARIZONA

OTTO L. BENDHEIM, M.D., F.A.P.A., Medical Director

SOUTHWESTERN SURGICAL SUPPLY CO.

Hospital Supplies and Equipment

Physician's X-Ray Apparatus

Laboratory Equipment

Your distributor for leading manufacturer's equipment and supplies — look to Southwestern for products and service. Some of our complete lines are listed for your convenience.

Air-Shields Equipment	Bard-Parker Company
Cambridge Instrument Co.	Becton-Dickinson Company
Clay-Adams Company	Ethicon Suture Corporation
Meals-On-Wheels	Hyland Laboratories
Shampaine Company	Johnson & Johnson
Simmons Company	J. Sklar Mfg. Company
Wilmot-Castle Co.	Warner-Chilcott Company

Our Sales & Service Representatives Cover the Southwest

Offices & Warehouses

EL PASO

ALBUQUERQUE

PHOENIX

Full Antispasmodic Action



Four times more potent than atropine in Depressing Ganglionic Transmission



Homapin[®]-4



Dyspepsia, Nausea, Regurgitation



Ulcers, Cholecystitis, Enteritis or Pelvic Disease

A Single Pure Synthetic Alkaloid



No Drying, Flushing or Visual Blur

MISSION PHARMACAL CO.
SAN ANTONIO, TEXAS

Over 600,000,000
patient-days of
effective, well-toler-
ated antihypertensive
therapy...

Rauwiloid[®]

alseroxylon, 2 mg.

is still unexcelled

● **Just**
● **two tablets**
at bedtime

Eight years of continuous use...
prove enduring patient-accept-
ance and physician-satisfaction
with RAUWILOID...*without any re-
visions of claims, changes of dosage,
or additional side actions encountered.*

Rauwiloid is an original development of



Northridge,
California

Janet Doe, Librarian
New York Academy of Medicine
2 East 103 Street
New York 23, New York

Southwestern MEDICINE

Official Journal of The Southwestern Medical Association,
The Western Association of Railway Surgeons, The Southwest Obstetrical and Gynecological Society,
Southwestern Dermatological Society, Texas District One Medical Association,
The Southwestern New Mexico Medical Society, and El Paso County Medical Society

LIBRARY

DEC 15 1961

NEW YORK ACADEMY
OF MEDICINE

Dr. Harold J. Beck Elected President of Southwestern Medical Association	Page 547
Dr. Zeph Campbell Heads Southwest Obstetrical and Gynecological Society	Page 549
Railway Surgeons Elect Dr. Hugh S. Collett President	Page 550
Acute Transient Diabetes Mellitus with Acidosis and Hypothyroidism	Page 552
Combined Therapy in the Treatment of Hypertension	Page 558

COMPLETE CONTENTS ON PAGE 538

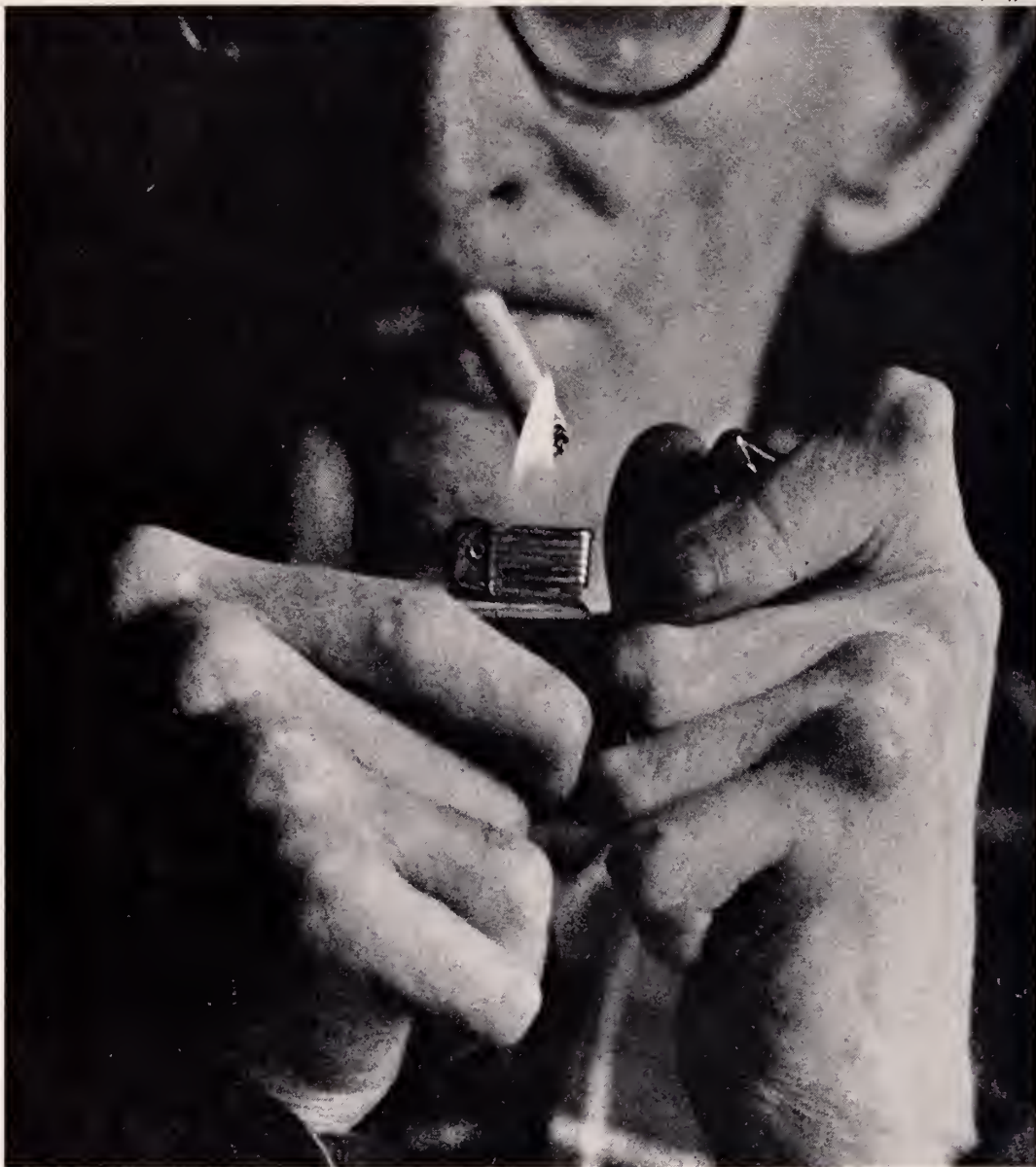
December, 1961

VOL. 42, NO. 12



Founded 1916

a case for **HALDRONE**TM
(paramethasone acetate, Lilly)



In **RHEUMATOID ARTHRITIS**, the new corticosteroid, Haldrone, temporarily reverses the inflammatory process. Haldrone provides increased joint mobility and rapid relief of discomfort with little adverse effect on electrolyte metabolism.



Product brochure available; write Eli Lilly and Company,
Indianapolis 6, Indiana.

Suggested dosage in rheumatoid arthritis:
Initial suppressive daily dose 6-8 mg.
Maintenance daily dose 1.5-4 mg.
Supplied in bottles of 30, 100, and 500 tablets:

1 mg., Yellow (scored)
2 mg., Orange (scored)

140098

NEW

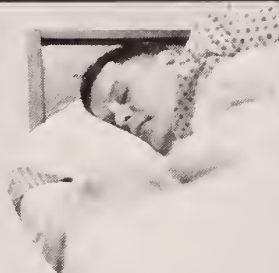
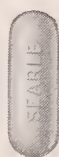
B.I.D.

DOSAGE



*only one
lasts all night*

*only one
lasts all day*



PRO-BANTHINE P.A.[®]

(BRAND OF PROPANTHELINE BROMIDE)

PROLONGED-ACTING TABLETS—30 mg. Effective • Convenient • Sustained Action

PRO-BANTHINE[®], the leading anticholinergic, is now available in a distinctive prolonged-acting dosage form.

The prolonged action of new PRO-BANTHINE P.A. is regulated by simple physical solubility. Each PRO-BANTHINE P.A. tablet releases about half of its 30 mg. promptly to establish the usual therapeutic dosage level. The remainder is released at a rate designed to compensate for the metabolic inactivation of earlier increments.

This regulated therapeutic continuity maintains the dependable anticholinergic activity of PRO-BANTHINE all day and all night with only two tablets daily in most patients.

New PRO-BANTHINE P.A. will be of particular benefit in controlling acid secretion, pain and discomfort both day and night in ulcer patients and in inhibiting excess acidity and motility in patients with peptic ulcer, gastritis, pylorospasm, biliary dyskinesia and functional gastrointestinal disorders.

Suggested Adult Dosage: One tablet at bedtime and one in the morning, supplemented, if necessary, by additional tablets of PRO-BANTHINE P.A. or standard PRO-BANTHINE to meet individual requirements.

G. D. SEARLE & CO.

CHICAGO 80, ILLINOIS

Research in the Service of Medicine

Southwestern Medicine

*The U. S.-Mexico Regional Medical Journal Serving West
Texas, New Mexico, Arizona, Nevada and Northern Mexico*

Official Journal of

The Southwestern Medical Association, The Western Association of
Railway Surgeons, The Southwest Obstetrical and Gynecological
Society, The Southwestern Dermatological Society, Texas
District One Medical Association, The Southwestern
New Mexico Medical Society, and El Paso County
Medical Society

EDITOR Lester C. Feener, M.D.
404 Banner Building, El Paso, Texas

MANAGING EDITOR Louis W. Breck, M.D.
1220 North Stanton Street, El Paso, Texas

ASSOCIATE EDITORS
Branch Craig, M.D. Maurice P. Spearman, M.D.

ADVERTISING AND SUBSCRIPTION OFFICES

Mott, Reid & McFall
Publishers

310 N. Stanton St., El Paso, Texas

Publication Office

26S Texas St., Fort Worth, Texas

Subscription Price \$5.00 — Single copies 50c

Published Monthly

VOL. 42 DECEMBER, 1961 NO. 12

BOARD OF MANAGERS

Harold J. Beck, M.D.

Carlos Sotelo, M.D.

M. D. Thomas, M.D.

Louis G. Jekel, M.D.

Frank A. Shallenberger, Jr., M.D.

Louis W. Breck, M.D.

Grady Morrow, M.D.

H. D. Garrett, M.D.

Sherwood Burr, M.D.

Jack A. Bernard, M.D.

Harry W. Sellers, M.D.

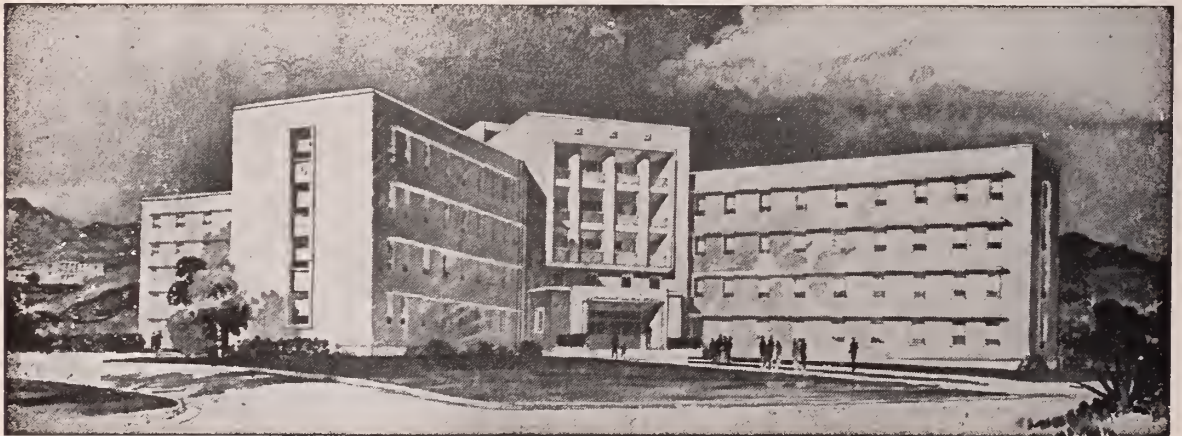
Morton H. Leonard, M.D.

David Russek, M.D.

Zeph Campbell, M.D.

Gordon M. Marshall — National Advertising Representative
30 West Washington Street, Chicago, Ill., Dearborn 2-S148.
Eastern Office — John H. Hinse, Room 340, 15 West 44th Street
New York 36, Oxford 7-5262.

Second-class mail privileges authorized at Fort Worth, Texas
Postmaster: All undeliverable copies returnable under Form 3579
should be to Southwestern Medicine, 310 North Stanton Street,
El Paso, Texas.



Providence Memorial Hospital

The Modern Hospital of the Southwest

APPROVED BY THE JOINT COMMISSION ON ACCREDITATION OF HOSPITALS

COMPLETE DIAGNOSTIC and TREATMENT FACILITIES

ISOTOPE THERAPY AND STUDIES

COBALT 60 ROTATIONAL TELETHERAPY UNIT

OUTSTANDING CHEMISTRY LABORATORY

FACILITIES FOR PSYCHIATRIC THERAPY

ELECTROENCEPHALOGRAPHIC LABORATORY

2001 North Oregon Street

• El Paso, Texas



congestion relieved

all day...all night
with only
one Extentab, b.i.d.

NEW

Dimetapp[®] Extentabs[®]

let your sinusitis, allergy and U.R.I. patients breathe easier!

DIMETAPP Extentabs contain Dimetane[®] (parabromdylamine [brompheniramine] maleate) 12 mg., phenylephrine HCl 15 mg., and phenylpropanolamine HCl 15 mg., a proved antihistamine and two outstanding decongestants. The dependable Extentab form provides sustained relief from the stuffiness, drip and congestion of sinusitis, colds and U.R.I. for 10-12 hours with a single dose.

A. H. ROBINS CO., INC.
MAKING TODAY'S MEDICINES WITH INTEGRITY



RICHMOND 20, VIRGINIA
SEEKING TOMORROW'S WITH PERSISTENCE



a more effective,
more pleasant
way to treat
dry...itchy skin
Alpha-Keri®

*water dispersible, antipruritic oil
for the bath or shower*

Alpha-Keri makes dry skin feel soft and smooth immediately . . . soothes the skin and stops itching. Alpha-Keri deposits a microfine, lubricant-moisturizing oil film over the entire skin area . . . hydrating the keratin and preventing it from drying out. It is particularly effective in replacing the action of skin lipids lost by the dehydrating effects of soap, water and weather. Alpha-Keri may be added to the bath or sponged on the wet skin while showering.

Alpha-Keri is the first and only completely water-dispersible, antipruritic oil combining mineral oil and a keratin moisturizer. Contains Kerohydric® (brand of dewaxed, oil-soluble, keratin-moisturizing fraction of lanolin), mineral oil and a special nonionic emulsifier. Alpha-Keri disperses immediately and completely in water. Available in bottles of 8 fl. oz.

Write for samples and literature.

WESTWOOD PHARMACEUTICALS, BUFFALO 13, NEW YORK



Inflammation Takes Flight

Tandearil®

brand of oxyphenbutazone

**a new
development
in nonhormonal
anti-inflammatory
therapy**

Geigy

Remarkably useful in a wide variety of inflammatory conditions, including: rheumatoid arthritis, spondylitis, osteoarthritis¹⁻⁶; gout,^{1,7,8} acute superficial thrombophlebitis^{9,10}; painful shoulder (peritendinitis, capsulitis, bursitis, and acute arthritis of that joint)¹⁻⁷; severe forms of a variety of local inflammatory conditions.^{11,12,13}

The physician should be thoroughly familiar with the dosage, side effects, precautions and contraindications of Tandearil before prescribing.

Full product information available on request.

more specific than steroids—Acts directly on the inflammatory lesion without altering pituitary-adrenal function...without impairing immunity responses.^{11,14}

more dependably absorbed than enzymes—Tandearil, a simple, non-protein molecule, is rapidly and completely absorbed,^{4,16} consistently providing effective blood levels.

far more potent than salicylates—Anti-inflammatory potency of Tandearil markedly superior to aspirin.^{2,15}

availability:

Round, tan, sugar-coated tablets of 100 mg. in bottles of 100 and 1000.

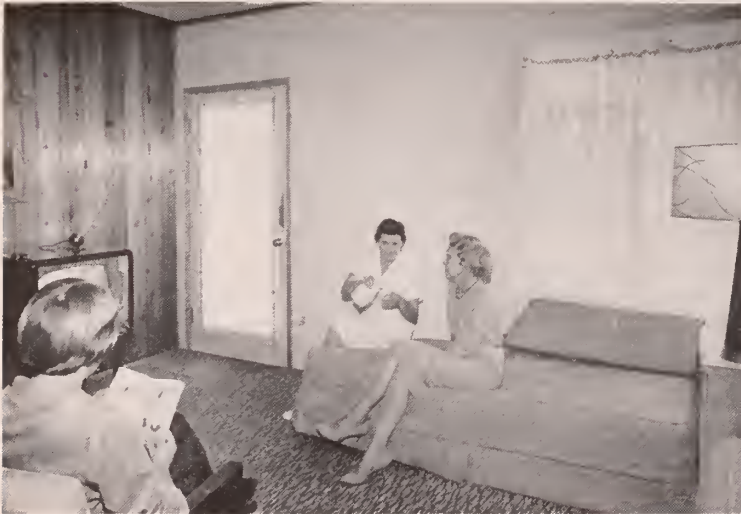
Geigy Pharmaceuticals
Division of Geigy Chemical Corporation
Ardsley, New York

references:

1. Graham, W.: Canad. M. A. J. 82:1005 (May 14) 1960.
2. Vaughn, P. P.; Howell, D. S., and Kiem, I. M.: Arth. and Rheumat. 2:212, 1959.
3. O'Reilly, T. J.: J. Irish M. A. 46:106, 1960.
4. Cardoe, N.: Ann. Rheumat. Dis. 18:244, 1959.
5. Robichaux, E.: General Practice 24:14, 1961.
6. Brooke, J. W.: Western Med. 2:81, 1961.
7. Connell, J. F., Jr., and Rousselot, L. M.: Am. J. Surg. 98:31, 1959.
8. Brodie, B. B., et al., in Contemporary Rheumatology 1956, p. 600.
9. Stein, I. D.: Ann. N. Y. Acad. Sc. 86:307 (March 30) 1960.
10. Barczyk, W., and Röth, W.: Praxis 49:589, 1960.
11. Miller, J. M., et al.: Antibiotic Med. and Clin. Therap. 7:109, 1960.
12. Connell, J. F., Jr., and Rousselot, L. M.: Am. J. Surg. 97:429, 1959.
13. Summary of individual case histories submitted to Geigy.
14. Domenjoz, R.: Ann. N. Y. Acad. Sc. 86:263, 1960.
15. Smyth, C. J.: Ann. N. Y. Acad. Sc. 86:292, 1960.
16. Yü, T. F., et al.: J. Pharmacol. and Exper. Therap. 123:63, 1958.

Contents

Dr. Harold J. Beck Elected President of Southwestern Medical Association	Page 547
Postgraduate Course Scheduled	Page 548
Dr. Zeph Campbell Heads Southwest Obstetrical and Gynecological Society	Page 549
Railway Surgeons Elect Dr. Hugh S. Collett President	Page 550
to Receive Awards	Page 551
Best Papers in <i>Southwestern Medicine</i> Acute Transient Diabetes Mellitus with Acidosis and Hypothyroidism	Page 552
By E. W. Lander, M.D., Roswell, N.M.	
Combined Therapy in the Treatment of Hypertension; Reserpine, Hydralazine, Hydrochlorothiazide	Page 558
By C. K. Newsome, M.D., Evansville, Ind.	
Book Review; Outline of Fractures Including Joint Injuries	Page 567
Coming Meetings	Page 567



Located in the heart of the beautiful Phoenix citrus area near picturesque Camelback Mountain, the hospital is dedicated exclusively to the treatment of psychiatric and psychosomatic disorders, including alcoholism.

Constant care, supervision and companionship are an integral part of the therapy program at Camelback Hospital. Whether patients prefer restful hobbies such as TV viewing, reading, conversing in the modern, comfortable rooms, or enjoy more active out-of-doors recreation, highly-trained, registered nurses are always nearby.

Camelback Hospital

5055 North 34th Street
AMherst 4-4111
PHOENIX, ARIZONA
OTTO L. BENDHEIM, M.D., F.A.P.A., Medical Director



PERCODAN[®]

(Salts of Dihydrohydroxycodine and Homatropine, plus APC)

**Relief from PAIN
is yours to give with
just one tablet**

Relief from pain is yours to give with just one Percodan Tablet. Percodan acts in 5 to 15 minutes... relief is usually maintained for 6 hours or longer... toleration is excellent... constipation rare... sleep uninterrupted by pain. Indicated for the wide *middle* region of pain, Percodan fills the gap between the milder oral and the more potent parenteral analgesics.

AVERAGE ADULT DOSE: 1 tablet every 6 hours. May be habit-forming. Federal law allows oral prescription. *Also Available:* Percodan[®]-Demi: the complete Percodan formula, but with only half the amount of salts of dihydrohydroxycodine and homatropine.

Each scored, yellow Percodan* Tablet contains 4.50 mg. dihydrohydroxycodine HCl, 0.38 mg. dihydrohydroxycodine terephthalate, 0.38 mg. homatropine terephthalate, 224 mg. acetylsalicylic acid, 160 mg. acetophenetidin, and 32 mg. caffeine.



Literature on request.

ENDO LABORATORIES Richmond Hill 18, New York

*U.S. Pats. 2,628,185 and 2,907,768

*Desiccate those unsightly
possibly dangerous skin
growths with the
ever-ready, quick and
simple to use*

BIRTCHER
HYFRECATOR®

*More than 150,000
instruments in daily use.*



For A Demonstration and Additional Information — Contact Your Local Supplier

IN ALBUQUERQUE

Allied Medical Supply, Inc.
1506 Central Avenue, S. E.
Albuquerque, New Mexico
CH 2-4795

IN AMARILLO

Hunter Hospital Supply
617 West 7th Street
Amarillo, Texas
DR 3-3701

IN LUBBOCK

Hunter Hospital Supply
814 Avenue Q
Lubbock, Texas
PO 5-9426

IN PHOENIX

Allied Medical Supply of Arizona, Inc.
3633 West Orange Avenue
Phoenix, Arizona
YE 7-2831

IN TUCSON

Arizona Medical Supply Company
1027 East Broadway
Tucson, Arizona
MA 3-7581



*Birtcher —
One quarter century
of honest value —
Sincerely Presented*

Q
U
A
L
I
T
Y



P
A
P
E
R
S

EXAMINATION TABLE ROLLS

All Sizes Available
Smooth and Crepe Paper

PROFESSIONAL TOWELS

Best Quality Cellulose
White and Green

ASK YOUR SUPPLIER FOR TIDI.

TIDI PRODUCTS are always of best quality,
uniform, and economical in use.

Distributed throughout the USA

M'fd. by TIDI PRODUCTS, Pomona, California

new...

- **SMALL**
- **ODORLESS**
- **EASY-TO-TAKE**
- **TASTELESS**

prulet

Laxative

The active ingredient:
is analogous to a sub-
stance found in prunes.
Is not absorbed from
the digestive tract.

Mission
PHARMACAL CO.
SAN ANTONIO, TEXAS

YOUR patient who has a disturbance of ego function, either developmental or constitutional or both, will find at Devereux, among other services, experienced multi-disciplinary personnel who understand and treat children and young adults with various types of ego disturbance. These services are available to all students, including the simple, uncomplicated mentally-retarded and children with a wide variety of emotional problems requiring a program of residential care.

Your patient will participate in group living and learning experiences with others who are at his level of development and aptitude. He will receive continuous periodic evaluations by experts to determine optimum timing for the introduction of new experiences and additional challenges appropriate for stimulation of growth.

D A Non-profit Organization Founded in 1912
EVEREUX

THE DEVEREUX FOUNDATION
Santa Barbara, California Victoria, Texas
DEVON, PENNSYLVANIA

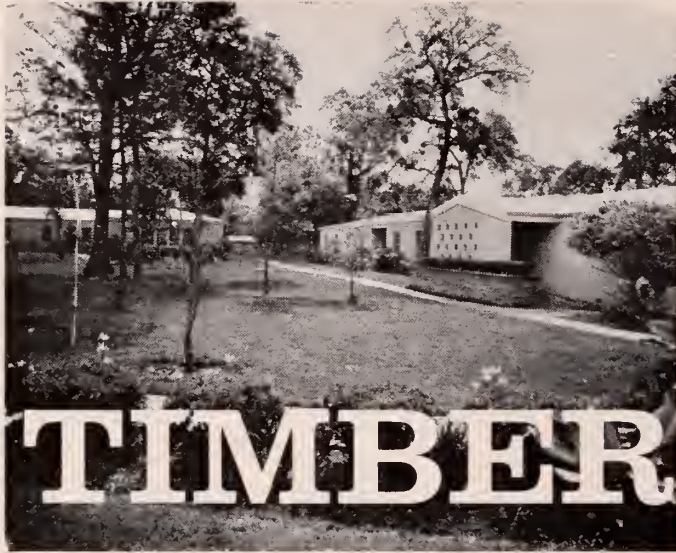
HELENA T. DEVEREUX EDWARD L. FRENCH, Ph.D.
Founder and Consultant *Director and President*

SCHOOLS • COMMUNITIES • CAMPS
TRAINING • RESEARCH

WALTER M. UHLER, M.D. J. CLIFFORD SCOTT, M.D.
Director of Medical Services *Director of Psychiatry*

ANNE HOWE, M.S.W. KENNETH E. EVANS, B.S.
Director of Social Work *Director of Education*

JOHN R. KLEISER, Ph.D.
Director of Clinical Psychology



PSYCHIATRIC HOSPITAL

DAY HOSPITAL

DEPARTMENT OF OUT PATIENT PSYCHIATRY

TIMBERLAWN FOUNDATION

For Education and Research in Psychiatry

Narcotic Cases Not Admitted

TIMBERLAWN

PSYCHIATRIC CENTER

PERRY C. TALKINGTON, M. D., Clinical Director

CHARLES L. BLOSS, M. D., Medical Director

Associate Psychiatrists

HOWARD M. BURKETT, M. D.

JAMES K. PEDEN, M. D.

WARD G. DIXON, M. D.

JERRY M. LEWIS, M. D.

C. L. JACKSON, M. D.

RALPH M. BARNETTE, JR., B. B. A., Business Manager

Clinical Psychology

PHILIP ROOS, PH. D.

DONALD BERTOCH, M. A.

Social Work

BILL M. TURNAGE, M. S. S. W.

ROBERT L. COATES, M. S. S. W.

GERALDINE SKINNER, B. S., O. T. R., Director of Occupational Therapy

LOIS TIMMINS, PH. D., Director of Recreational Therapy

FRANCES LUMPKIN, R. N., B. S., Director of Nurses

EVERGREEN 1-2121

DALLAS 21, TEXAS

P. O. BOX 1769



Front View — Enclosed Patio

Sandia Ranch Sanatorium, Inc.

6903 Edith N. E.

DIAMOND 4-1618

ALBUQUERQUE, NEW MEXICO

Licensed by State Health Department as a Psychiatric Hospital of 68 Beds
For the Care and Treatment of Nervous or Mental Disorders

VARIOUS ACCEPTED FORMS OF THERAPY AVAILABLE

OCCUPATIONAL THERAPY AND OUTDOOR ACTIVITIES

CLINICAL LABORATORY AND ELECTROENCEPHALOGRAM

LIMITED FACILITIES FOR DOMICILIARY CARE

Favorable Year Round Climate — 20 Acres Landscaped Grounds

JOHN W. MYERS, M. D., Medical Director

ALAN JACOBSON, M. D., Psychiatrist

HENRY T. PENLEY, M. D., Psychiatrist



IN PHYSIOLOGIC STRESS

WHEN B COMPLEX OR VITAMIN C DEFICIENCIES EXIST

THERA-COMBEX® KAPSEALS®

AID RECOVERY IN THE POSTOPERATIVE
PERIOD AND IN CONVALESCENCE

Each Kapseal contains: Vitamin B₁ (thiamine) mononitrate—25 mg.; Vitamin B₂ (riboflavin)—15 mg.; Nicotinamide—100 mg.; Folic acid—0.1 mg.; Vitamin B₆ (pyridoxine hydrochloride)—1 mg.; Vitamin B₁₂ (crystalline)—5 mcg.; *dl*-Panthenol—20 mg.; Vitamin C (ascorbic acid)—150 mg.; Taka-Diastase® (Aspergillus oryzae enzymes)—2½ gr. Bottles of 100 and 1,000. *also available:* COMBEX® KAPSEALS, bottles of 100, 500, and 1,000, for prevention of B complex deficiencies. COMBEX with VITAMIN C KAPSEALS, bottles of 100, 500, and 1,000, for prevention of B complex and vitamin C deficiencies. COMBEX PARENTERAL, 10-cc. Steri-Vials®, for prevention and treatment of vitamin B complex deficiencies. TAKA-COMBEX® KAPSEALS, bottles of 100 and 1,000, for use as a digestive agent and for prevention of certain vitamin B complex and vitamin C deficiencies.

TAKA-COMBEX ELIXIR,
50561 bottles of 16 fl. oz.

PARKE-DAVIS

PARKE, DAVIS & COMPANY, Detroit 32, Michigan

a relaxed mind in a relaxed body
with
Trancopal
Brand of chlormezanone
effective TRANQUILIZER • potent MUSCLE RELAXANT



How often do you see the tense, anxious patient express his feelings through taut muscles, rigid posture? Or the patient with tense skeletal muscles become anxious and irritable because of his discomfort?

When you prescribe Trancopal you can see how this "tranquilaxant" speedily helps the anxious patient. It quiets his psyche—and this quieting helps relax tense muscles. It eases muscle spasm—and this easing helps put his mind at rest.

DeNyse¹ notes that the effect of Trancopal as a quieting agent "... may play a part in the skeletal muscle relaxing results obtained." Gruenberg² used Trancopal to treat patients with musculoskeletal disorders, and commented: "In addition to relieving spasm and pain, with subsequent improvement in movement and function, Trancopal reduced restlessness and irritability in a number of patients."

Very few side effects occur with Trancopal. You may see them in only about two out of a hundred patients, and they will almost always be mild.

Available: 200 mg. Caplets® (green colored, scored), 100 mg. Caplets (peach colored, scored), each in bottles of 100.

Dosage: Adults, 1 Caplet (200 mg.) three or four times daily; children (5 to 12 years), from 50 to 100 mg. three or four times daily.

Before prescribing be sure to consult Winthrop's literature for additional information about dosage, possible side effects and contraindications.

Winthrop LABORATORIES New York 18, N. Y.

References: 1. DeNyse, D. L.: M. Times 87:1512 (Nov.) 1959.
2. Gruenberg, F.: Current Therap. Res. 2:1 (Jan.) 1960.

MEETINGS

Dr. Harold J. Beck Elected President of Southwestern Medical Association

Dr. Harold J. Beck, Albuquerque, was elected president of the Southwestern Medical Association at its 43rd annual meeting in Las Vegas, Nevada, Oct. 19-21, 1961, at a sparkling convention which brought physicians from as far away as Boston and Honolulu.

Other new officers are Dr. M. D. Thomas, El Paso, president-elect; Dr. Frank A. Shallenberger, Jr., Tucson, vice-president; and Dr. Grady Morrow, El Paso, secretary-treasurer. Members of the executive committee are Dr. Harry W. Sellers, Lordsburg, N. M.; Dr. David Russek, Chihuahua City; Dr. Carlos Sotelo, Hermosillo, Son.; Dr. Louis G. Jekel, Phoenix; and Dr. Louis W. Breck, El Paso, managing editor of *Southwestern Medicine*. Dr. Sherwood Burr, Tucson, was the retiring president.

The 1962 meeting will be held in Albuquerque Oct. 18-20 with headquarters at the Western Skies Hotel.

Over 200 physicians turned out for the annual session which was held at the Tropicana Hotel with such features as the Folies Bergere and Shecky Greene, noted comedian.

Speakers

Speakers were Dr. O. T. Clagett, Head of Sec-



Dr. Beck

tion, Division of Surgery at the Mayo Clinic and Professor of Surgery at the Mayo Foundation Graduate School, University of Minnesota; Dr. Arthur C. Curtis, Past President of the American Academy of Dermatology and Syphilology, and Chairman of the Department of Dermatology, University of Michigan Medical Center; Dr. Cary M. Dougherty, Clinical Associate Professor of Obstetrics and Gynecology at the Louisiana State University School of Medicine.

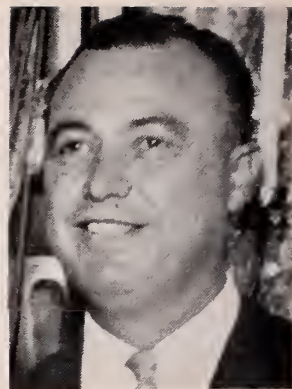
Dr. Max Fine, Associate Clinical Professor of Ophthalmology at the Stanford University School of Medicine and the University of California



Dr. Thomas



Dr. Shallenberger



Dr. Morrow

Medical School; Dr. S. Benjamin Fowler, Associate Professor of Clinical Orthopaedic Surgery at the Vanderbilt University Medical School; Dr. William Parson, Professor of Internal Medicine and Chairman of the Department of Internal Medicine at the University of Virginia School of Medicine; and Dr. Martin Jungmann, Director, Institute for Gravitational Strain Pathology, New York.

Born in Colorado

Born in Los Animas, Colo., the new president, Dr. Beck, received his M.D. from the University of Colorado School of Medicine. He interned in St. Joseph's Hospital in Denver and then took his residency in Urology at the New York Polyclinic

Hospital and Christ Hospital in Jersey City.

During World War II he served for two years in the European Theater, emerging with the rank of major. He began the practice of medicine in 1945 in Albuquerque at the Medical Arts Square, still the location of his offices today.

He is a Fellow in the American College of Surgeons, a past president of the Bernalillo County Medical Society, a past chief of staff at St. Joseph's Hospital, and a past president of Surgical Service of New Mexico. He is a member of the Presbyterian Church.

He and Mrs. Beck have a son, John Beck, a sophomore at St. Joseph College and daughter, Mrs. Philip Baiamonte of Albuquerque.

Postgraduate Course Scheduled

Obstetrics and Gynecology will be discussed at a one day course to be given by the El Paso Branch of the University of Texas Postgraduate School of Medicine Sunday, Jan. 21, 1962, in the El Paso County Medical Society's Turner Home at 1301 Montana Avenue in El Paso.

Category I credit for the course has been approved by the Texas Academy of General Practice.

Dr. J. Leighton Green is director of the El Paso Branch.

Dr. Zeph Campbell Heads Southwest OB and Gyn Society

Dr. Zeph Campbell of Phoenix was elected President of the Southwest Obstetrical and Gynecological Society at its eleventh annual meeting in San Diego Oct. 29-31, 1961.

Other new officers are Dr. Hobart Kelly, Riverside, Calif., President-elect; Dr. Max Costin, Tucson, vice-president; Dr. Charles T. Franklin, La Mesa, Calif., secretary; and Dr. Francis L.

Rook, San Diego, treasurer. Dr. John F. Wanless of San Diego was the retiring president.

The 1962 meeting will be held at Phoenix, Oct. 10-13, with headquarters at the Camelback Inn.

Guest speakers were Dr. Isadore Dyer, New Orleans, Professor of Obstetrics and Gynecology at Tulane University School of Medicine; Dr. Robert E. L. Nesbitt, Jr., Professor and Chairman of the

SOUTHWEST OB AND GYN OFFICERS—New officers of the Southwest Obstetrical and Gynecological Society, elected at the eleventh annual meeting in San Diego, Oct. 29-31, are, front row (left to right) Dr. Hobart Kelly, Riverside, Calif., President-Elect; Dr. Zeph Campbell, Phoenix, President; and Dr. Max Costin, Tucson, Vice-President. Back row (left to right), Dr. Francis Rook, San Diego, Treasurer; Dr. Charles Franklin, La Mesa, Calif., Secretary; Dr. Charles Weber, La Jolla, Calif., Dr. John Poyas, Laguna Beach, Calif., and Dr. Joseph M. Botte, San Diego, council members.



Department of Obstetrics and Gynecology, State University of New York Upstate Medical Center at Syracuse; and Dr. Buford Word, Birmingham, Professor of Obstetrics and Gynecology at the Medical College of Alabama.

Dr. Ralph A. Reis, Professor of Obstetrics and Gynecology at Northwestern University served as moderator at the luncheon meetings.

Born in Ohio

Dr. Campbell was born in Ada, Ohio, and was

reared and attended grade and high school in East Chicago, Indiana.

He then attended Northwestern University for both undergraduate and graduate studies and received his M. D. degree in 1942.

He interned at Passavant Memorial Hospital in Chicago and served his residency at Presbyterian Hospital in Chicago.

For a time he engaged in private practice in Chicago. Then in 1947 he moved to Phoenix and has practiced there ever since.

Railway Surgeons Elect

Dr. Hugh S. Collett President

Dr. Hugh S. Collett, Elko, Nev., was elected president of the Western Association of Railway Surgeons at its annual meeting in Reno, Nev., Sept. 28-30, 1961.

Other new officers are Dr. Charles R. Kennedy, Paso Robles, Calif., first vice president; Dr. John C. Mitchell, Salina, Kans., second vice president; Dr. Harry O. Hund, San Rafael, Calif., treasurer; Dr. Graham Owens, Kansas City, secretary; and Dr. Louis E. Jones, Roseville, Calif., past president of the association, chairman of the executive committee.

Speakers at the meeting were Dr. Ruth Fleming, Reno, Surgeon, Western Pacific Railroad; Dr. Maurice E. Leonard, Associate Professor of Clinical Medicine at the University of California and Senior Consulting Internist, Western Pacific Railroad; Dr. Max Childress, Assistant Clinical Pro-

fessor of Surgery at the University of California and Chief Consulting Thoracic Surgeon, Western Pacific Railroad.

Dr. John M. Read, Elko, Nev.; Dr. Bradford Simmons, San Rafael, Calif.; Dr. Charles J. Monahan, San Francisco; Dr. Angelo Lapi, Professorial Lecturer in Law Medicine at the Kansas City University School of Law and Assistant Professor of Clinical Pathology at the University of Kansas Medical Center.

Dr. H. Corwin Hinshaw, Clinical Professor of Medicine, Stanford University; Dr. Albert C. Daniels, Assistant Clinical Professor of Surgery, Stanford University; Dr. Bernard Kaufman, Sr., Medical Superintendent, Southern Pacific General Hospital; Dr. Emery R. Calovich, Kansas City, Consultant Cardiologist, Union Pacific Railroad; and Mr. Francis B. Lewis, Manager of Safety and Courtesy, Union Pacific Railroad.

Best Papers in Southwestern Medicine To Receive Awards

Five Hundred Dollars to be Presented Annually

A total of Five Hundred (\$500.00) Dollars will be awarded annually for the best original scientific articles to be published in *Southwestern Medicine* starting with the January, 1962 issue.

The awards will be made in two classifications: Regional and National.

All physicians who practice in West Texas, Arizona, New Mexico, Nevada or Northern Mexico (States of Sonora and Chihuahua) will be eligible to compete for the Regional Awards.

All physicians in the United States outside the Regional area may compete for the National Awards.

Only original scientific articles published in *Southwestern Medicine* during the calendar year will be eligible.

Awards will be made in the following amounts for the best original articles written by physicians in the Regional Area:

One Hundred (\$100.00) Dollars for the best paper.

Seventy-Five (\$75.00) Dollars for the second best paper.

Fifty (\$50.00) Dollars for the third best paper.

Awards for the best original articles written by physicians in the National classification (outside the Regional Area) will be made in the following amounts:

One Hundred (\$100.00) Dollars for the best paper.



Paul I. Murphy (right), president of the Medical Research Association of New York and Boston, presents Dr. Louis W. Breck, managing editor of SOUTHWESTERN MEDICINE with a grant of \$500 to launch the journal's Writing Awards contest.

Seventy-Five (\$75.00) Dollars for the second best paper.

Fifty (\$50.00) Dollars for the third best paper.
An additional Fifty (\$50.00) Dollars will be set

aside annually to establish a fund for a special classification to be known as the Intern and Resident Writing Awards. Original scientific articles submitted by resident physicians and interns of the Regional Area will be eligible for special awards to be announced at a future date.

The Writing Awards, to be made only for papers published in *Southwestern Medicine*, have been established by Paul I. Murphy, President of Medical Research Association of New York and Boston, to encourage improvement in medical journal writing.

The first annual grant of \$500.00 to launch the Writing Awards contest was presented to *Southwestern Medicine* at the annual convention of the Southwestern Medical Association in Las Vegas, Nev. Louis W. Breck, M.D., of El Paso, Managing Editor, accepted in behalf of the Journal.

According to Mr. Murphy, the Writing Awards will be presented annually to focus attention by

members of the medical profession on *Southwestern Medicine* as the journal of choice for important contributions. The aim, also, is to emphasize the Southwest Area as a growing clinical research center.

Contributions must be written in English. They must be typed, double spaced and on one side of paper only. A stamped, self-addressed envelope must be included with each paper to insure return of rejected manuscripts.

All papers should be submitted to Lester C. Feener, M.D., Editor, 310 North Stanton Street, El Paso, Texas. As with all official medical journals, only those papers found acceptable by the board of editors of the journal will be published.

Arrangements are being made with the American Medical Writers Association to appoint a panel of judges who will make the annual selection of the best published papers.

ORIGINAL ARTICLES

Acute Transient Diabetes Mellitus with Acidosis and Hypothyroidism

E. W. LANDER, M.D., *Roswell, N. M.*

Acute diabetes mellitus with acidosis complicated by hypothyroidism, hypercholesterolemia, hypertension and obesity can be a stimulating experience to the practicing physician. This is especially true when it all occurs in a patient whose sole complaint was a pruritic dermatitis involving the glans penis and foreskin.

Interest quickens in an attempt to explain the acute culmination of the pathological physiology involved. Could an episode such as this be precipitated by anxiety and the tensions of starting a new business venture?

The following case affords a most interesting interplay of the above-mentioned metabolic dysfunctions. Pertinent facts of the case will be presented. It is proposed to then discuss the separate

abnormalities involved and their relation to each other in the clinical picture.

Case Report

A thirty eight year old, obese, white male presented himself in September with the sole complaint of a pruritic balanitis of about two weeks duration. A smear was obtained and culture revealed staphylococcus aureus and monilia albicans. Initial urinalysis revealed an acid urine with a specific gravity of 1.035, no albumin, sugar four plus, acetone four plus and a few hyaline casts.

The history revealed that he had developed obesity and hypertension while serving with the navy during World War II. Blood pressure at that time was said to be as high as 180/120 and the weight up to as much as 260 lbs. He had been given a medical discharge from the Navy because of his hypertension and an anxiety neurosis which was characterized chiefly by severe headaches.

He was told a few years ago, by another doctor, that he had gout, but he had only temporary treatment. He

was now employed as a district salesman, a new position in a new territory. Specific questioning revealed that he had noted polydipsia, polyuria, occasional vertigo and some sub-occipital headaches. He denied any visual disturbance.

He had been taking no corticosteroids or hormones. He was not questioned concerning his sex life or libido. A complete examination at a veterans hospital six months previously was reported by the patient to have revealed no pathology except for the obesity and hypertension which were not treated.

Family history revealed that his obese mother developed diabetes at the age of sixty four. She also had a blood serum cholesterol of 365 mgm. There was a familial tendency to obesity and hypertension, but no known hypothyroidism, goitre, gout or insanity. His wife and sixteen year old daughter each weighed 225 lbs., while two other children were of normal weight.

Pertinent data of the physical examination follows: The eyes and vision were grossly normal. The fundi revealed no unusual abnormality except for the fact that the vessels appeared rather pale and indistinct. The disc margins were normally sharp. The thyroid gland was palpably normal. The heart was negative except for mild general enlargement and the BP was 160/114.

The lungs were clear. The weight was 243 lbs. and the habitus stocky. There was no evidence of arthritis or gouty deposits. The liver was not clinically enlarged. The genitals were negative except for a weeping dermatitis involving the glans and foreskin. There was no edema nor signs of allergy. The hair was prematurely grey. The skin showed no unusual coarseness, xanthoma or xanthelasma.

In addition to the urinalysis noted above, laboratory findings were as follows: Fasting blood sugar 396 mgm.; blood serum cholesterol 1012 mgm.; (the blood serum had the appearance of whipped cream). Blood serum uric acid 4.8 mgm.; protein bound iodine 2.6 gamma; rbc 5,950,000, hb. 18.54, wbc 8,000, seg. 48, non-seg 2, lymphs 40, monos 4 and eosins 6. Unfortunately, determinations of neutral fats and triglycerides were not done at this initial examination; so they were omitted entirely.

Treatment was carried out in the office on an ambulatory basis. He was forbidden to drive his car for the present and activity was limited to the bare essentials of his work.

He was placed on a routine, qualitative reduction diet of low salt and low cholesterol content. NPH Insulin®, U 40, was given each AM at the office with daily urinalysis and fasting blood sugar determinations for the next four days. Dextro amphetamine and amobarbital, 15 mgm. (Dexamyl Spansule®) was prescribed daily AM. The blood sugar at this time was 248 mgm. and the balanitis was practically clear.

Eight days after the onset of treatment the urine was free of sugar, there was only a trace of acetone and the blood sugar was 147 mgm. BP was 140/100 and the weight was 235 lbs. Blood serum cholesterol was 678

mgm. NPH Insulin was reduced to U 20 daily AM and triiodothyronine 5 mcgm. (Cytomel®) daily was started.

Ten days after treatment was started, he suddenly developed a severe visual disturbance which rendered him practically blind. Examination by an ophthalmologist revealed severe hypermetropia which was not properly evaluated at the time. The fundi were said to show no abnormality of note. The vision spontaneously improved during the next week and was again normal in about ten days. The urine was entirely normal and the blood sugar was 128 mgm. three weeks after onset of treatment.

It was decided to change the diabetes therapy from insulin to one of the oral hypoglycemic agents. He was started on 1.0 gm. of tolbutamide (Orinase®) AM and PM. Three days later the urine was still clear and the blood sugar was 117 mgm. The Orinase was reduced to 0.5 gm. AM and PM. Three days later the blood sugar was 107 mgm., BP 140/96, weight 227 lbs. and the vision remained free of defect. The Orinase was reduced to 0.5 gm. daily AM and the Cytomel was increased to 12.5 mcgm. The following week Cytomel was increased to 25 mcgm.

Six weeks after starting treatment the BP was 124/92, weight 222 lbs., urine clear, blood sugar 117 mgm. and blood serum cholesterol 258 mgm. The Orinase was stopped and further treatment consisted only of reduction diet, Cytomel 25 mcgm. and Dexamyl Span. 15 mgm. daily AM. No attempt was made to be more specific with regard to the diet. His obese wife and daughter, who were not examined, cooperated with simultaneous weight reduction. One week later the Cytomel was increased to 50 mcgm. daily.

Approximately eight weeks after the onset of this episode, he developed an acute tonsillitis which was promptly treated with penicillin. This infection failed to cause a flare-up of the diabetes. The patient was followed casually and he checked all urine specimens with Testape®. Four months later the PBI was 3.9 gamma, serum cholesterol 231 mgm., urine clear and the vision normal.

He has remained free of complaint without evidence of return of the diabetes mellitus and has continued to reduce his weight. He has failed to show any clinical or laboratory evidence of gout.

He was changed from Cytomel 50 mcgm. to Proloid® 0.13 gm. with the hope of improving the PBI response. Determination of the latter after two months showed the PBI to be 3.6 gamma; so the patient was returned to the use of Cytomel.

He was followed for one year. Last examination revealed BP 140/96, weight 207 lbs., the urine negative and cholesterol 268 mgm. He was advised to increase the Cytomel to 75 mcgm. daily. The patient moved from this vicinity about this time; so there has been no further follow-up of this case.

Heredity

All the separate pathological entities noted in this case can be attributed to a genetic factor.

The inheritance of diabetes mellitus may be predicted and anticipated according to Mendel's Law.¹⁰

Hypothyroidism of variable degree has been noted among members of successive generations of the same family.

The obese patient is most often one of a family with a tendency toward excessive weight. On the other hand, environment cannot be disregarded since families live under the same conditions and tend to acquire similar food patterns. Dietary indiscretion throughout childhood and extending into adult life may well be a factor in the development of diabetes, hypertension, arteriosclerosis and hyperlipemia.⁶

Hypertension

A family history of hypertension is more often noted in hypertensive diabetics.¹⁰ It is recognized that the arteriosclerotic changes which develop in later years in the non-diabetic population appear earlier and more frequently in diabetics.¹² Vascular complications have replaced coma as the leading cause of death in diabetes mellitus.

Hypertension may be related to the development of arteriosclerosis due to it increasing the rate of passage of plasma constituents, such as excessive lipo-proteins, into the arterial walls.

Hypotension, rather than hypertension, is more commonly found in the patient with hypothyroidism.

Obesity

The tendency to obesity often begins early in life. Emotional instability is frequently a factor, especially in the obesity of children. The association of obesity with diabetes has been recognized for years. Recent figures² indicate that this relationship has risen from 40 percent some fifty years ago to 80 percent at the present time.

Obesity, in some degree, is common but not always an associated finding in patients with hypothyroidism and hypercholesterolemia.³

Although obesity is commonly associated with hypertensive cardio-vascular disease,⁸ no definite conclusion can be drawn concerning the etiological relationship.

The majority of obese diabetics are adults, usually more than 40 years of age. The disease is

less severe when it develops in this age group and the symptoms may be minimal, as shown by this case.

Hypothyroidism

Some clinical reports,¹⁰ in the past, have suggested that hypofunction of the thyroid gland might protect the patient against the development of diabetes mellitus. This conclusion was undoubtedly premature and invalid. Statistical reports are scanty,¹³ but there is ample evidence that the two entities do occur simultaneously in the same individual.

Actually, since more precise tests have become available, it has become evident that diabetes mellitus occurs more frequently on the hyperthyroid patient and that diabetics are more apt to develop over-activity of the thyroid gland.¹⁰ Further data indicates that this seems to occur more often on patients with toxic adenoma.

A search of the literature indicates that clinical hypothyroidism¹³ and diabetes mellitus seldom develop in the same person. Co-existence of the two entities is more commonly found in the various types of multiglandular disorders, especially those involving the pituitary gland. The role of thyroid hormone in regulation of carbohydrate metabolism is evident from alteration of the latter which occurs with changes in thyroid function. Animal experimentation and clinical observation indicate that alteration of thyroid function results in significant changes in carbohydrate metabolism only when the pancreatic function is impaired.

Rupp, DiGeorge and Paschkis¹³ report an interesting case of a 39 year old female with spontaneous myxedema who showed impaired carbohydrate tolerance. She developed clinical diabetes after nine years of treatment with thyroid substance. She stopped thyroid medication and the diabetes subsided, but signs and symptoms of hypothyroidism recurred. She then resumed the thyroid substance and the diabetes returned. The authors concluded that the thyroid hormone merely activated the latent diabetes in this patient rather than actually causing it.

It seems logical to conclude that the administration of thyroid hormone to diabetics who also show evidence of hypothyroidism has the same beneficial effects as it has upon non-diabetics.¹⁴

It appears to have no effect upon the control of the diabetes.

Hypercholesterolemia

The classification of hyperlipemia into primary and secondary states is perhaps academic and is often difficult to establish clinically. Idiopathic, primary hyperlipemia is said to be characterized by marked elevation of serum triglycerides with a moderate to marked increase of serum cholesterol.² The diabetes encountered in this group is usually mild and acidosis seldom occurs.

These cases can frequently be controlled entirely by diet. Xanthomata are common in this condition and are often acute. They tend to clear with improvement of the underlying hyperlipemia. Secondary hyperlipemia is more commonly associated with chronic disease and impairment of kidney function is a fairly constant finding.

It is common knowledge that serum cholesterol is often elevated in the presence of hypothyroidism.⁴ Furthermore, the progressive development of arteriosclerosis in the untreated or inadequately treated hypothyroid patient is a major hazard. The hazard is doubled when the patient has a co-existent diabetes, be it frank or latent.

The inefficient or subnormal utilization of carbohydrate¹¹ as in diabetic acidosis results in fats becoming the prime source of energy. Thus, hyperglycemia is not the determining factor in the production of either diabetic acidosis or hypercholesterolemia. Contrast the hyperlipemia of glycogen storage disease which is characterized by a fasting hypoglycemia. Both diabetes and glycogen storage disease are characterized by inadequate utilization of carbohydrates.

The treatment of diabetes re-establishes adequate utilization of carbohydrates and thus tends to reduce the hyperlipemia and clear the xanthomatoses if present. It seems possible that the co-existence of hypothyroidism may have been overlooked in some of these patients.

Diabetes Mellitus

Diabetes mellitus is a metabolic disease with many facets and possibilities for complications. An attempt will be made to limit the discussion of this condition to the case as presented. The occurrence of diabetic acidosis, even though transient, is closely related to the extreme cholesterolemia, obesity and hypertension noted in this case.

The etiology of acute transient diabetes with acidosis appears to be no different than those factors found in the confirmed diabetic in periods of poor control except that such a patient usually has only a latent diabetes. Again, this is exemplified by this case.

Acidosis and coma are reported to be more common in the summer than in the winter.¹⁰ This may be due to less strict attention to health routine during vacations or possibly related to disturbances in fluid balance.

The hypothyroidism in this case was probably coincidental with respect to the diabetes, but it may well have been a potent factor in regard to the hypercholesterolemia.

Anxiety

The emotional impact of anxiety factors⁷ may influence metabolic function in varied fashion. This is typified in disease states of obesity, hypertension, diabetes and even hypothyroidism. Such disturbances can have as deleterious an effect on diabetic control as that associated with infection, starvation, carbohydrate deprivation, immobilization or hyperinsulinism.

Hinkle and Wolf¹⁰ have shown that emotional disturbances in diabetes can produce ketosis and an increased glycosuria which subside with the removal of stress. Danowski¹⁰ reports that 10 to 20 percent of juvenile diabetics admitted to the hospital because of severe acidosis or coma have had a preceding period of emotional turmoil.

Recognition of the fact that emotional disturbances can aggravate pre-existing diabetes makes it logical to assume that they may be responsible for the aggravation of a latent diabetes. Clinical diabetes, thus evolved, is usually labile and transient.

Although such cases have been reported, it is difficult to prove that the diabetes actually originates from stress. Selye has presented us with much scientific data on the subject of stress, but the reaction of the human patient to stress is undoubtedly a highly individual matter.

Lipemia Retinalis

Lipemia retinalis¹ is a rare manifestation of an abnormal concentration of serum lipids most commonly associated with diabetes. It is never seen in the absence of hyperlipemia, but hyperlipemia alone does not produce a milky serum nor the retinalis picture.

These changes are probably due to the abnormally high concentration of the fraction of neutral fats. However, fractionalization of serum lipids yields no practical information not obtainable from a total cholesterol determination. Franklin and Weissmann¹ reported a typical case which also demonstrated xanthomata. The retinal vessels in this case appeared pinkish-yellow and flat due to the turbidity of the serum. There was no arteriolar light reflex; in fact, the arteries and veins could be distinguished only by their size. The fundi were pale, without hemorrhages or exudate and the disc outline sharp.

Heroic treatment of the diabetic acidosis with prompt control resulted in clearing of the retinal vessels by the sixth day. The hyperlipemia cleared by the seventeenth day and the xanthomata disappeared in two months.

The role or possible association of thyroid hormone deficiency in this case was not discussed by the authors.

Transient Changes in Refraction

Transitory refractive changes are not uncommon in diabetic patients, especially the untreated. The sudden onset or increase in myopia suggests inadequate control of the hyperglycemia. Joslin has stated: "The appearance of hypermetropia in a diabetic patient under treatment should suggest too rigorous insulinization." Such changes are transitory and refraction for new or changes of corrective lenses is not necessary.

Stern reports three cases:⁹ one of sudden myopia in an untreated case and two of sudden hypermetropia in treated cases. He also presents a brief summation of the theories concerning the etiology and pathological physiology of this condition.

Several explanations have been offered for the transitory ametropia associated with diabetes. All are based on the assumption that the change is due to an increase in the refractive index of the ocular media. There is no agreement, however, on the point at which this increase occurs. The theory ascribing the responsibility for myopia to the presence of an excess of sugar, as such, is untenable for physical reasons. Neither does it explain the changes in astigmatism occasionally observed.

Duke-Elder, in 1943, explained the change in refraction by a disturbance of the osmotic equilib-

rium between the lens and the aqueous humor. This may be precipitated by sudden change of sugar concentration in the blood. The lens, with its sluggish metabolism, does not participate in this fluctuation of body fluids and tries to maintain its original molecular concentration. The osmotic equilibrium is maintained by the entrance of fluid into the lens from the aqueous humor. This causes the lens to swell and its surface to adapt to the increased curvature.

In addition, the optic density of the peripheral layers decreases while that of the nucleus remains unchanged. These factors cause the refractive power of the lens to increase and the eye to become myopic. Should the blood sugar suddenly decrease, as occurs in the vigorous treatment of diabetic acidosis, the opposite mechanism functions to produce hypermetropia.

Management

The treatment of the obese diabetic should be directed primarily to the obesity. In fact, it is apparent that weight reduction should be advised for the correction of all of the pathological disturbances involved in this case.

The use of otherwise adequate low fat diets in the therapy of diabetes mellitus deserves re-emphasis. On the contrary, the use of the old fashioned ketogenic diet is no longer justified because of the probable relationship between high caloric, high fat diets and atherogenesis. The treatment and correction of diabetes per se will usually have little effect on an associated hyperlipemia.

The National Institute of Health reports some recent enzyme research which suggests that intravascular clotting is more likely to occur after a fatty meal. The frequent association of hypercholesterolemia and arteriosclerosis has long been recognized; although the exact role of cholesterol is not clear. Pathological reports indicate that arteriosclerosis is a disease of progression. The initial lesions have been noted even in infancy. Insull and Ahrens¹⁰ have shown that the highly saturated fatty acid content of the American diet is even reflected in the high level of lipids in breast milk.

A large number of studies substantiate the fact that polyunsaturated fatty acids tend to reduce

the serum level of cholesterol; whereas, a high intake of saturated fats produces the reverse. The restriction of certain foods of high cholesterol content has been carried to extremes in the attempt to treat obesity and hypercholesterolemia. Eggs, for instance, almost always prohibited, have far too many other desirable food qualities to be placed on these lists of forbidden foods.

The oral hypoglycemic agents have proven valuable and facilitated the treatment of certain types of diabetes mellitus, especially in the obese adult. New thyroid analogues may prove to be the answer in the search for specific blood-cholesterol-lowering agents according to Corday.¹⁵ The calorigenic effect of these chemicals seems to be minimal; whereas, the cholesterol-lowering effect is strong. Toxic effects have been few and reversible in controlled studies.

The role of thyroid hormone in cholesterol metabolism is thus given additional emphasis. However, Bissell states that the PBI determination cannot be used as an index of therapeutic efficacy when Cytomel is used to treat the hypothyroid state. The clinical response to Cytomel in the reported case was much greater than the PBI determinations would indicate.

The use of anorectics has been popularized as an adjuvant for the reduction of excess weight. It seems that the value of these agents has been overly rated; although, they may have a temporary deterrent effect on the appetites of some patients.

Discussion

This case appears to be that of a latent diabetic with multiple metabolic disturbances. The cause of the acute diabetic acidosis is conjectural. It may well have been precipitated by anxiety and stress.

The associated pathological physiology secondary to the obesity, hypertension, hypothyroidism and hypercholesterolemia was, no doubt, instrumental in the development of the diabetic crisis. The hypothyroidism had probably been present for years and is coincidental with regard to the diabetes. It could, however, have a direct effect on the severity of the hypercholesterolemia. The de-

velopment of diabetic acidosis in such a case is reportedly rare and is usually not severe.

The transient abnormalities involving the eyes, such as lipemia retinalis and acute refractive changes, are worthy of emphasis. The literature is replete with the retinal pathology associated with diabetes, but it is rare to find these two complications even mentioned.

Summary

A case of acute transient diabetes with acidosis has been presented and discussed. The occurrence of this condition in a patient with hypothyroidism is not common. The initial manifestation and sole complaint was a pruritic balanitis. Further study disclosed multiple metabolic disturbances of unusual interest. The medical care of this case was rendered without hospitalization or loss of time from employment.

215 W. Third St.

Bibliography

1. Serum Lipids in Lipemia Retinalis, Franklin and Weissman, *Annals of Int. Med.*, Vol. 46, No. 2, Feb. 1957, Page 413.
2. Obesity, Fat Metabolism and Diabetes, Adlersberg, *Diabetes*, Vol. 7, No. 3, May-June 1958, Page 236.
3. Hypothyroidism, Sellers, *Jour. of Mich. S. Med. Soc.*, 54:1182, Oct. 1955.
4. Hypothyroidism, a Dangerous Disease, Taylor, Teitelbaum and Tokuyama, *Jour. of Mich. S. Med. Soc.*, 54:1077, Sept. 1955.
5. Relationship of Obesity to Coronary Disease and Hypertension, Master, Jaffe and Chesky, *JAMA*, Vol. 153, Dec. 1953, Page 1499.
6. The Relationship of Obesity to Chronic Disease, Goodman, *Geriatrics*, Vol. 10, No. 2, Feb. 1955, Page 78.
7. Anxiety, Hypertension, Obesity and Diabetes, Milburn, W. Va. *Med. Jour.*, Vol. 53, No. 10, Oct. 1957, Page 420.
8. Obesity, Cholesterol, Arterial Disease and Hypertension, Ross, *Ohio S. Med. Jour.*, Vol. 47, No. 12, Dec. 1951, Page 1109.
9. Transitory Changes of Refraction in Diabetes Mellitus, Stern, *N. Y. Med. Jour.*, 50:195, Jan. 5, 1950.
10. Diabetes Mellitus, Textbook, T. S. Danowski.
11. The Hyperlipemias in Disorders of Carbohydrate Metabolism, Kolb, de Lalla and Gofman, *Metabolism*, Vol. 4, No. 4, July, 1955, Page 310.
12. Metabolism of Serum Lipids in Diabetes and in Arteriosclerosis, Mann, *Diabetes*, Vol. 4, No. 4, July, 1955, Page 273.
13. Hypothyroidism and Diabetes Mellitus, Rupp, Di George and Paschkis, *Diabetes*, Vol. 4, No. 5, Aug. 1955, Page 393.
14. Co-existence of Hypothyroidism with Diabetes Mellitus, Eaton, *Jour. of Mich. S. Med. Soc.*, 53:1101, Oct. 1954.
15. New Thyroid Analogues, Corday, *Medical News Letter*, 1960.
16. Fatty Acids of Human Milk, Insull and Ahrens, *Biochemical J.*, 72:27, 1959.

Combined Therapy In the Treatment of Hypertension

Reserpine, Hydralazine, Hydrochlorothiazide

C. K. NEWSOME, M. D., *Evansville, Ind.*

Essential hypertension is a medical enigma. Although some cases of arterial hypertension are the result of renal disease or hyperadrenocorticism and are so diagnosed, it still remains that the majority of patients fall into the reservoir of essential hypertension . . . a state where the etiology may be quite obscure.

Increase in peripheral resistance and elevated blood pressure is a result of many factors. It has been suggested that the essential cause of the increased peripheral resistance is an inherent hypersensitivity of the vasoconstrictor nerves and an exaggeration of the usual vasomotor reflexes. These factors tend to increase the neurogenic impulses or the humoral mechanisms when the factors which regulate the receptivity of the vessel walls remain intact.¹

The nervous and emotional strains of our modern society are underlying factors which lead to essential hypertension by constantly increasing neurogenic impulses. While kidney disease is not a precursor to essential hypertension it becomes a sequel to it by reducing renal blood flow.¹

There is little doubt that disturbances in biochemical and neuro-biochemical mechanisms are forerunners of essential hypertension, yet these areas of physiological imbalance are most difficult to diagnose.² About 75 per cent of all patients fall into this category.²

Therapeutic Agents

Since the etiology of essential hypertension is obscure, complex, and practically defies accurate diagnosis, it follows that therapeutic measures

must be aimed at treating symptoms. Naturally, if the pathogenesis could be easily determined then empirical treatment would be unnecessary and indefensible.^{3,4,5} The practical result of these circumstances is that all patients receive a series of therapeutic agents or a prescribed mixture of drugs. Hypertensives with a history of nervous and emotional stress are treated with sedatives and calming agents with considerable success.

One of the most effective of these is reserpine (Serpasil®). Many clinical studies have demonstrated that reserpine acts as a shield against stress by preventing responses to excessive psychic stimulation.^{6,7,8,9} Compounds of the phthalazine group have hypotensive properties. One of these, hydralazine (Apresoline®), has a remarkably long-lasting vaso-pressor effect, gives a rise in pulse rate and an increase in renal blood flow.^{10,11,12,13,14}

A combination of reserpine and hydralazine has proved to be an effective anti-hypertensive agent.^{15,16,17} During the past few years hydrochlorothiazide (Esidrix®), the natriuretic agent, has also proved most satisfactory in the treatment of hypertension.^{18,19,20,21,22}

Therapeutic Rationale

The concept of using several antihypertensive agents in combination drug therapy has received attention from investigators.^{23,24} It is known that the thiazide derivatives exert a modest hypotensive action on their own even in the absence of edema. Furthermore, they enhance the potency of other antihypertensive agents such as reserpine and hydralazine.

When one drug potentiates the other it is possible to achieve good therapeutic results with a combination containing smaller doses of each of the drugs. Consequently, the total amount of medication required for effective therapy will be less than when these agents are given alone or in sequence.

After careful review of pertinent data on the hypertensive agents reserpine, hydralazine and hydrochlorothiazide, a preparation was selected for study. This product contained reserpine 0.1 mg., hydralazine 25 mg., and hydrochlorothiazide 15 mg. (Ser-Ap-Es®)*.

Subjects and Methods

Forty patients were used in this study. Selection was made on the basis of blood pressure readings taken several months prior to the investigation. The highest reading was 300/280 mm. Hg. the lowest reading was 180/110 mm. Hg. During the test period, routine pulse and blood pressure readings were taken on each visit. A urinalysis was done on each patient visit.

Patients ranged in age from 29 to 72 years. Fourteen were from 60 to 72 years old. Twelve were 50 to 58 years old. The balance of fourteen were 29 to 49 years of age. Twenty were obese; five were diabetics; three were neurotics, and one had arteriosclerotic heart disease. Six patients had renal hypertension, while the balance of 34 had essential hypertension ranging from moderate to severe. The general clinical condition of all patients has been summarized on Chart No. 1.

The period of treatment ranged from two to fourteen weeks with an average of 4.97 weeks. The combination of drugs was administered in the form of tablets and ranged from one-quarter to four per day. (Chart No. 2 and No. 4)

It is a well known fact that many older people succumb to cerebral accidents and allied vascular disorders related to their hypertension. In these patients, a diastolic blood pressure below 95 mm. Hg. is often a precursor to cerebral myocardial or renal ischemia. Therefore, patients in the age group of 50 to 72 years were placed in a separate category, and therapy was discontinued when the

diastolic blood pressure reached the critical range.

Clinical Results

Group 1—Patients Aged 50-72 Years

Three patients in this group were seventy-two years old. Patient No. 1 demonstrated, on one tablet per day, an excellent response. His blood pressure went from 240/180 mm.Hg. down to 150/80 mm.Hg., with a drop in the mean arterial blood pressure of 95* mm.Hg. Patient No. 2, also seventy-two years old, went from 300/150 mm.Hg. to 160/80 mm.Hg., with a reduction in the mean arterial blood pressure of 105 mm.Hg. This is a significant clinical response on only two tablets per day for a two-week period. Previous medications had no beneficial effects upon this patient's hypertension.

Patient No. 3, aged seventy-two, received medication for two weeks with an initial dose of one tablet per day and a dosage reduction to one-half tablet daily. Her blood pressure dropped from 260/160 mm.Hg. to 160/84 mm.Hg., with a reduction in the mean arterial blood pressure of 88 mm.Hg. There were no untoward reactions in any of these three difficult, elderly patients.

The remainder of the patients in Group One were aged 50 to 66 years. They received medication for periods ranging from two to fourteen weeks. One patient, No. 7, required fourteen weeks before a satisfactory clinical response could be achieved. Dosage ranged from one-quarter tablet per day to three tablets per day, with a daily average of two tablets.

Both Patient No. 4 and No. 12 showed marked improvement. The blood pressure readings of Patient No. 12 went from 300/160 mm.Hg. to 160/90 mm.Hg., resulting in a drop in mean arterial blood pressure of 105 mm.Hg. Patient No. 4 went from 280/180 mm.Hg. to 140/94 mm.Hg., with a drop in the mean arterial blood pressure of 113 mm.Hg.!

Patient No. 16 had previously been uncontrolled on various other medications, yet the preparation under study brought her blood pressure down from 220/130 mm.Hg. to 180/100 mm.Hg.; her decrease in mean arterial blood

*The Ser-Ap-Es® used in this study was supplied through the courtesy of Robert D. Graupner, M. D., of Ciba Pharmaceuticals, Inc., Summit, New Jersey.

*Calculated by the method of Best and Taylor: The Physiological Basis of Medical Practice, 6th Ed., Williams & Wilkins Co., Pub. 1955.

CHART NO. 1 *Summary of Patients' Clinical Status*

Case No.	Patient	Age	Sex	Blood Before	Pressure After	Primary Diagnosis	Secondary Diagnosis	Duration of Disease	Pulse Before	Pulse After	Lab. Data	Weight Before	Weight After	Diet
1	C.I.	72	M	240/180	150/80	EH-S	As.H.D.	10 yrs.	80	80	Neg	167	165	—
2	M.A.	72	F	300/150	160/80	EH-S	Neurotic	Years	84	80	Neg	176	176	—
3	H.L.	72	F	260/160	160/84	EH-S	C.H.D.	Years	86	80	Neg.	116	116	—
4	G.B.	66	F	280/180	140/94	EH-S	Mk.Obes.	Years	90	76	Neg.	250	239	Reducing
5	F.B.	66	M	260/140	180/90	RH-S	Obesity	Years	80	66	2+ Alb. to Neg.	170	165	—
6	E.C.	65	F	280/120	150/80	EH-S	Diabetes	Years	80	80	Neg.	173	173	Diabetic
7	M.M.	65	F	260/140	180/90	EH-S	Obesity	10 yrs.	80	64	Neg.	160	155	—
8	G.D.	65	M	200/110	140/80	EH-M	As.C.	Years	80	68	Neg.	141	130	—
9	H.R.	63	F	200/100	180/100	EH-S	Obesity	6+ yrs.	72	80	3+ Alb. to Neg.	220	216	Reducing
10	K.T.	62	F	220/120	130/80	EH-M	Mk.Obes.	Years	78	72	2+ Alb. to Neg.	194	194	Reducing
11	F.Q.	60	F	300/164	200/110	EH-S	Obesity	Years	86	86	Neg.	220	220	Reducing
12	L.L.	60	F	300/160	160/90	EH-S	Obesity	Years	80	60	Neg.	174	172	Reducing
13	W.I.	60	F	240/140	180/90	RH-S	Obes.&As.	Years	74	74	2+ Alb. to Neg.	150	145	Reducing
14	C.J.	60	F	280/140	160/84	RH-S	Obesity	Years	90	84	Neg.	300	300	Reducing
15	L.W.	58	M	220/110	130/80	EH-S	C.H.D.	3+ yrs.	80	80	1+ Alb. to Neg.	165	150	Low Na
16	J.B.	57	F	220/130	180/100	EH-M	Neurosis Anxiety	10 yrs.	86	84	Neg.	178	178	Low Prot
17	W.W.	56	F	220/110	170/90	EH-M	Diabetes, Obesity	Years	80	78	Neg.	170	170	Diabetic
18	E.T.	56	F	300/140	160/90	EH-S	Obesity	Years	82	80	Neg.	204	204	Reducing
19	J.S.	56	M	220/136	180/90	EH-M	Arthritis, Obesity	Years	80	74	Neg.	200	194	Reducing
20	N.S.	55	F	300/160	180/100	EH-S	Diabetes	Years	84	80	Neg.	165	165	Diabetic
21	V.H.	50	F	260/150	160/90	EH-S	Obesity	Years	100	82	Neg.	172	163	Reducing
22	S.J.	54	F	180/110	120/80	EH-S	Obesity	Years	80	64	Neg.	245	227	Reducing
23	L.H.	50	F	200/100	180/100	EH-M	—	Years	45	70	Neg.	143	143	—
24	T.M.	50	M	200/100	150/90	RH-M	—	Recent	100	88	4+ Alb.	172	171	Na Free
25	W.B.	50	F	240/140	170/90	EH-S	C.H.D.	15 yrs.	86	74	Neg.	190	180	Low Na
26	T.R.	50	F	220/120	160/90	EH-M	Obesity	Years	80	74	Neg.	220	218	Reducing
27	E.M.	48	M	200/106	160/110	EH-M	—	Years	80	80	Neg.	185	185	Reducing
28	R.W.	48	F	220/120	180/100	EH-S	Diabetes	Years	120	86	Neg.	161	160	Diabetic
29	L.R.	47	F	300/280	140/80	EH-S	Obesity	Years	88	80	Neg.	250	250	Reducing
30	V.A.	47	F	180/110	130/80	RH-M	Diabetes	Years	86	80	2+ Alb. to Neg.	154	150	Diabetic
31	G.C.	16	M	240/130	140/96	EH-S	—	Years	70	74	Neg.	193	182	—
32	J.T.	45	M	200/120	160/100	EH-M	—	6+ yrs.	72	74	Neg.	172	180	—
33	W.G.	45	M	260/140	160/90	EH-S	—	10 yrs.	80	80	Neg.	230	230	Reducing
34	E.H.	44	F	260/140	130/80	EH-M	Obesity	Recent	80	70	Neg.	225	220	Reducing
35	W.O.	42	M	200/120	120/80	EH-M	Obesity	4 yrs.	82	80	Neg.	215	210	Reducing
36	B.C.	40	F	200/120	150/90	EH-M	Obesity	Recent	88	80	Neg.	225	221	Reducing
37	L.W.	36	F	260/150	180/110	EH-M	Neurosis	Years	80	88	Neg.	182	182	Reducing
38	F.L.	33	F	200/120	140/80	EH-M	—	Years	88	80	1+ Alb. to Neg.	114	114	—
39	M.W.	32	F	200/130	160/96	RH-S	Obesity	Years	90	85	2+ Alb. to Neg.	195	178	Reducing
40	A.D.	29	F	240/160	150/90	EH-S	Obesity	Years	80	80	Neg.	210	210	Reducing

	Before mm. Hg.	After mm. Hg.	Decrease mm. Hg.
Average Systolic Blood Pressure	239	157	82
Average Diastolic Blood Pressure	137	90	47

Key to Symbols

E.H.	Essential Hypertension	Mk.Obes.	Marked Obesity
S	Severe	R.H.	Renal Hypertension
M	Moderate	C	Cerebral
As.H.D.	Arterioslerotic Heart Disease	C.H.D.	Coronary Heart Disease

pressure was 35 mm.Hg. Patient No. 22 had been given every known antihypertensive agent and still remained uncontrolled. She was given the reserpine, hydralazine, hydrochlorothiazide compound, one tablet per day for six weeks and then one-half tablet per day for three weeks. Her reading went from 180/110 mm.Hg. to 120/80 mm.Hg., with a corresponding reduction of 45 mm.Hg. in the mean arterial blood pressure.

Similarly, Patient No. 25, who had never been controlled by many other antihypertensives, went from 240/140 mm.Hg. to 170/90 mm.Hg.; the reduction in her mean arterial blood pressure was 60 mm.Hg. Her initial dose was one tablet daily, which was gradually increased over a six week span to three tablets per day. At the end of this period of six weeks, her hypertension was under control.

Patient No. 18 acquired severe dizziness and headache on one tablet three times a day yet, when the dosage was reduced, all symptoms that might have been construed as side-reactions to the drug disappeared. Her original reading was 300/140 mm.Hg. which, in a period of two weeks, was reduced to 160/90 mm.Hg. Therefore, therapy was discontinued for her mean arterial blood pressure had gone from 220 mm.Hg. to 125 mm.Hg.—a reduction of 95 mm.Hg.

Therapeutic results in Patient No. 5 were excellent, although he complained of slight dizziness upon standing. His readings were 260/140 mm.Hg. down to 180/90 mm.Hg., and the mean arterial blood pressure dropped from 200 mm.Hg. to 135 mm.Hg., a reduction of 65 mm.Hg. Patient No. 6 complained of slight nausea when tablets were taken before meals. The drug was subsequently taken after meals and she no longer complained. Her readings were 280/120 mm.Hg. down to 150/80 mm.Hg., a reduction of 85 mm.Hg. in the mean arterial blood pressure.

Patient No. 26 complained of lassitude and weakness in the limbs. This was probably due to a prior rigid reducing diet rather than the drug. Her blood pressure dropped from 220/120 mm.Hg. to 160/90 mm.Hg., and the mean arterial blood pressure went from 170 mm.Hg. to 125 mm.Hg., a reduction of 45 mm.Hg. (Charts No. 2 and No. 3)

When this investigation started, the average mean arterial blood pressure in Group 1 was 191 mm.Hg. When therapy was discontinued, the average mean arterial blood pressure was 126 mm.Hg. This represents an average decrease of 65 mm.Hg. in the mean arterial blood pressure for this group. (Chart No. 3)

When the diastolic pressure dropped below 95 in this group, it was the indication for the discontinuance of medication. Previous to treatment the average diastolic pressure was 135 mm.Hg. and when therapy ceased the average diastolic pressure was 89 mm.Hg.

Group 2—Patients Aged 29 to 48 Years

In this category there was a truly amazing therapeutic result. Patient No. 29 began treatment under reserpine, hydralazine and hydrochlorothiazide with blood pressure readings of 300/280 mm.Hg. After two weeks of therapy on one tablet twice a day, his blood pressure was reduced to 140/80 mm.Hg. This represents a drop in mean arterial blood pressure of 180 mm.Hg., for it went from 290 mm.Hg. to 110 mm.Hg.

Patients No. 28, 32 and 33 had never been controlled before on other medications. After six weeks of treatment the blood pressure of Patient No. 28 was reduced from 220/120 mm.Hg. to 180/100 mm.Hg.—a reduction in the mean arterial blood pressure from 170 mm.Hg. to 140 mm.Hg., or a decrease of 30 mm.Hg.

Patient No. 32 was treated for five weeks. His blood pressure went from 200/120 mm.Hg. to 160/100 mm.Hg.; a drop in the mean arterial blood pressure of 30 mm.Hg. since it went from 160 mm.Hg. down to 130 mm.Hg. Patient No. 33 required only two weeks of therapy in order to reduce his blood pressure from 260/140 mm.Hg. to 160/90 mm.Hg. This represents a drop of 75 mm.Hg. in the mean arterial blood pressure.

Ganglionic blocking agents were previously required to control the hypertension in Patient No. 39. She required very careful supervision for, in addition to her severe renal hypertension, she had twice been an eclamptic. Therapy began with one tablet three times a day; at the beginning of the fourth week dosage was increased to two tablets twice a day and at the start of the sixth

CHART No. 2

Group 1—Patients 50 to 72 Years Old—Clinical Response Following Therapy

<i>Case No.</i>	<i>Patient</i>	<i>Sex</i>	<i>Age</i>	<i>Blood Pressure Before Therapy</i>	<i>Blood Pressure After Therapy</i>	<i>Drug Dosage</i>	<i>Length of Therapy</i>	<i>Clinical Condition After Therapy</i>	<i>Comment</i>
1	C.I.	M	72	240/180	150/80	Started 1 per day, increased to 1 B.I.D.	5 weeks	Dizziness and headache gone.	Fine response in elderly patient.
2	M.A.	F	72	300/150	160/80	1 B.I.D.	2 weeks	Headache gone.	No response from other medications. This medication produced significant response in short period.
3	H.L.	F	72	260/160	160/84	Started 1 per day, decreased to ½.	2 weeks	Dizziness gone.	Excellent on small dosage.
4	D.B.	F	66	280/180	140/94	Started 1 T.I.D., increased to 1 Q.I.D.	8 weeks	Marked obesity, but dizziness gone.	Significant response to therapy.
5	F.B.	M	66	260/140	180/90	Started 1 per day, increased to 1 T.I.D.	5 weeks	Feels much better, but complains on standing.	Response to therapy excellent.
6	E.C.	F	65	280/120	150/80	1 Tab B.I.D. to ½ Tab. per day.	2 weeks	Some nausea.	Excellent response, but 6 weeks after therapy blood pressure 240/120.
7	M.M.	F	65	260/140	180/90	1 Tab T.I.D. to ½ Tab daily.	14 weeks	Patient feels fine.	This patient took longer to respond, but clinical result is excellent.
8	G.D.	M	65	200/110	140/80	1-½ daily to ½ daily.	6 weeks	Patient feels fine.	Significant therapeutic response.
9	H.R.	F	63	200/100	180/100	2 Tabs daily.	7 weeks	Patient symptom-free.	Good therapeutic response. Perhaps larger dosage should have been given to reduce time.
10	K.T.	F	62	220/120	130/80	1 Tab daily to ¼ daily.	5 weeks	Exertional dyspnea.	Therapy discontinued when blood pressure dropped to this level. However, response to drug combination excellent.
11	F.Q.	F	60	300/164	200/110	1 Tab daily to 2 Tabs daily.	2 weeks	Patient symptom-free.	Significant therapeutic response.
12	L.L.	F	60	300/160	160/90	1 T.I.D. to 1 daily.	7 weeks	Patient free from dizziness.	Significant therapeutic response.
13	W.I.	F	60	240/140	180/90	1 T.I.D.	14 weeks	Patient free from headache and dizziness.	Significant therapeutic response.
14	C.J.	F	60	280/140	160/84	1 daily	2 weeks	Patient symptom-free.	Response excellent. Surgery required, therapy discontinued.
15	L.W.	M	58	220/110	130/80	1 T.I.D. to 1 daily.	7 weeks	Patient symptom-free.	Significant therapeutic response.
16	J.B.	F	57	220/130	180/100	1 B.I.D.	2 weeks	Tense patient.	All previous therapy without effect. Response to this medication was excellent.

CHART NO. 2—Continued

Case No.	Patient	Sex	Age	Blood Pressure Before Therapy	Blood Pressure After Therapy	Drug Dosage	Length of Therapy	Clinical Condition After Therapy	Comment
17	W.W.	F	56	220/110	170/90	1 Tab daily.	6 weeks	Patient symptom-free.	Significant therapeutic response.
18	E.T.	F	56	300/140	160/90	1 T.I.D. to 1 B.I.D.	2 weeks	Patient symptom-free.	Significant therapeutic response.
19	J.S.	M	56	220/136	180/90	1 Tab daily to ½ Tab daily.	3 weeks	Patient symptom-free.	Significant therapeutic response.
20	N.S.	F	55	300/160	180/100	1 Tab daily to 1-½ Tabs daily.	6 weeks	Patient symptom-free.	Significant therapeutic response.
21	V.H.	F	50	260/150	160/90	1 B.I.D. to 1 Tab daily.	5 weeks	Patient fine, symptom-free.	Significant therapeutic response.
22	S.J.	F	54	180/110	120/80	1 Tab per day to ½ Tab daily.	9 weeks	Patient symptom-free.	This patient previously received every known type of therapy without results. This combination has been significantly successful.
23	L.H.	F	50	200/100	180/100	1 T.I.D. to ½ Tab daily.	6 weeks		Patient has bradycardia. At one point pulse dropped to 45 up to 60—presently 70. Very uncooperative.
24	T.M.	M	50	200/100	150/90	1 Tab daily.	2 weeks	Patient symptom-free.	Significant therapeutic response.
25	W.B.	F	50	240/140	170/90	1 T.I.D. increased from 1 daily.	6 weeks	Patient symptom-free.	This patient was <i>not</i> previously controlled on any type of therapy. This combination has been significantly successful.
26	T.R.	F	50	220/120	160/90	1 Tab daily.	2 weeks	Patient feels better. Complains of weakness. Weighs 218 lbs.	Significant therapeutic response.

Each Tablet Contains: Reserpine 0.1 mg., Hydralazine 25 mg. and Hydrochlorothiazide 15 mg.

N.B.: Under column "Clinical Condition After Therapy," the remark "Patient Symptom-Free" refers to hypertensive symptoms *only*, and does not refer to the patient's secondary disease when such is present.

week, until the end of her course, she received one tablet daily. The result—blood pressure 200/130 mm.Hg. down to 160/96 mm.Hg., or the mean arterial blood pressure reduced by 37 mm. Hg. from 165 mm.Hg. to 128 mm.Hg.

Drug dosage for Patient No. 38 was reduced from one tablet twice a day to one-quarter tablet per day. On this very small dose her blood pressure went from 200/120 mm.Hg. to 140/80 mm. Hg. which represented a reduction of 50 mm. Hg. in the mean arterial blood pressure.

Patient No. 36 complained of dizziness during therapy. The medication was discontinued for one

week and then resumed. During the balance of treatment, there were no reactions.

At the beginning of therapy for Group 2, the average mean arterial blood pressure was 182 mm.Hg. At the end of therapy, the average mean arterial blood pressure was 120 mm.Hg., representing an average decrease of 62 mm.Hg. (See Charts No. 4 and No. 5)

Discussion

When this investigation began it was believed that a reduction of 20 mm.Hg. in the mean arterial blood pressure would represent a significant therapeutic response, especially among the

CHART NO. 3

Group 1—Patients 50-72 Years Old Decrease In Mean Arterial Blood Pressure

Case No.	Patient	Sex	Age	Mean Arterial Blood Pressure		
				Before Therapy mm. Hg.	After Therapy mm. Hg.	Decrease mm. Hg.
1	C.I.	M	72	210	115	95
2	M.A.	F	72	225	120	105
3	H.L.	F	72	210	122	88
4	D.B.	F	66	230	117	113
5	F.B.	M	66	200	135	65
6	E.C.	F	65	200	115	85
7	M.M.	F	65	200	135	65
8	G.D.	M	65	155	110	45
9	H.R.	F	63	150	140	10
10	K.T.	F	62	170	105	65
11	F.Q.	F	60	232	155	77
12	L.L.	F	60	230	125	105
13	W.I.	F	60	190	135	55
14	C.J.	F	60	210	122	88
15	L.W.	M	58	165	105	60
16	J.B.	F	57	175	140	35
17	W.W.	F	56	165	130	35
18	E.T.	F	56	220	125	95
19	J.S.	M	56	178	135	43
20	N.S.	F	55	230	140	90
21	V.H.	F	50	205	125	80
22	S.J.	F	54	145	100	45
23	L.H.	F	50	150	140	10
24	I.M.	M	50	150	120	30
25	W.B.	F	50	190	130	60
26	T.R.	F	50	170	125	45

Average Mean Arterial Blood Pressure
At Beginning of Therapy.....191 mm.Hg.
Average Mean Arterial Blood Pressure
At End of Therapy.....126 mm.Hg.
Average Decrease In Mean
Arterial Blood Pressure.....65 mm.Hg.

* Mean Arterial Blood Pressure = $\frac{\text{Systolic} + 2 \times \text{Diastolic}}{3}$

* Calculated by the method of Best and Taylor: The Physiological Basis of Medical Practice, 6th Ed., Williams & Wilkins Co., Pub. 1955.

fragile, older patients. As the study proceeded, it was demonstrated that the original estimate of reduction in the mean arterial blood pressure was too conservative.

Among the older patients, three, all over 60 years of age, had a decrease of over 100 mm.Hg. in their mean arterial blood pressure without any symptoms of cerebral or myocardial ischemia. (See Charts No. 2 and No. 3—Cases No. 2, No. 4 and No. 12) The patients in Group 1, aged 50 to 72, had an average reduction in their mean arterial blood pressure of 65 mm.Hg. (See Chart No. 3).

Based upon this study, it is probable that a reduction of 60 mm.Hg. in the mean arterial blood pressure could represent a highly significant re-

sponse to the reserpine, hydralazine, hydrochlorothiazide compound. It was also believed that the reductions in the mean arterial blood pressures among the younger group of patients (Group 2, aged 29 to 48) would be greater.

A glance at Chart No. 5 demonstrates that the average reduction in the mean arterial blood pressures among these hypertensives was 62 mm. Hg. It is therefore very probable that when the therapeutic agent under study is carefully used for a sufficient length of time, with proper dosage adjustment, a reduction of 60 mm.Hg. in the mean arterial blood pressure could be considered significant.

The seeming evidence of synergism of these drugs is overwhelming. When reserpine and hydralazine are given together an average daily dose is reserpine 0.8 mg., hydralazine 300 mg. A good average daily dose of hydrochlorothiazide is 100 mg. The average dose of the drug compound used in this study, two tablets per day, represents the daily administration of reserpine 0.2 mg., hydralazine 50 mg. and hydrochlorothiazide 30 mg.

In other words, two tablets of this compound represents only 25 per cent of the ordinary daily dose of reserpine, 17 per cent of the ordinary daily dose of hydralazine, and 33 per cent of the average daily dose of hydrochlorothiazide—yet it is possible with this compound to achieve more than satisfactory therapeutic effects with minimal side reactions.

Summary

Forty hypertensive patients ranging in age from 29 years to 72 years of age were treated with a compound containing per tablet: reserpine 0.1 mg., hydralazine 25 mg. and hydrochlorothiazide 15 mg. The average length of treatment lasted 5.02 weeks. The average daily dose was two tablets. The decrease in systolic blood pressure in Group 1 (50 to 72 years of age) averaged 86 mm.Hg., and in Group 2 (29 to 48 years of age) the average decrease was 78 mm.Hg.

The average decrease in diastolic blood pressure in Group 1 was 46 mm.Hg., and in Group 2 it was 48 mm.Hg. The Group 1 average decrease in mean arterial blood pressure was 65 mm. Hg., and in Group 2 it was 62 mm.Hg.

CHART No. 4

Group 2—Patients 29 to 48 Years Old—Clinical Response Following Therapy

Case No.	Patient	Sex	Age	Blood Pressure Before Therapy	Blood Pressure After Therapy	Drug Dosage	Length of Therapy	Clinical Condition After Therapy	Comment
27	E.M.	M	48	200/106	160/110	1 Tab daily down to ½ Tab daily.	6 weeks	Patient symptom-free.	Good therapeutic results.
28	R.W.	F	48	220/120	180/100	1 Tab daily to 1 B.I.D.	6 weeks	Patient symptom-free.	This patient never controlled before. Excellent response.
29	L.R.	F	47	300/280	140/80	1 B.I.D.	2 weeks	Patient symptom-free.	This is an amazing therapeutic result. Mean arterial blood pressure down 180. (See Chart No. 5)
30	V.A.	F	47	180/110	130/80	1 Tab daily up to 1 B.I.D.	5 weeks	Patient symptom-free.	Good therapeutic response.
31	G.C.	M	46	240/130	140/96	1 Tab daily up to 1 T.I.D.	5 weeks	Patient symptom-free.	Good therapeutic response.
32	J.T.	M	45	200/120	160/100	1 Tab daily.	5 weeks	Patient tense but symptom-free.	Significant therapeutic response. Never controlled on other medication.
33	W.G.	M	45	260/140	160/90	2 T.I.D. up to 5 Tabs daily.	2 weeks	Patient symptom-free.	Significant therapeutic response. Patient has never before been controlled on other medications.
34	E.H.	F	44	260/140	130/80	1 Q.I.D. down to 1 Tab daily.	3 weeks	Patient symptom-free.	Significant therapeutic response.
35	W.O.	M	42	200/120	120/80	1 Tab daily down to ½ Tab per day.	3 weeks	Patient symptom-free.	Significant therapeutic response.
36	B.C.	F	40	200/120	150/90	1 Tab daily up to 1 B.I.D.	7 weeks	Patient complained of dizziness.	Significant therapeutic response. Reduced dosage would eliminate possible reaction.
37	L.W.	F	36	260/150	180/110	1 Tab B.I.D.	2 weeks	Patient symptom-free.	Significant therapeutic response.
38	F.L.	F	33	200/120	140/80	1 B.I.D. down to ¼ Tab daily.	4 weeks	Patient symptom-free.	Significant therapeutic response on an extremely small dose of drug.
39	M.W.	F	32	200/130	160/96	2 Tabs B.I.D. down to 1 Tab daily.	10 weeks	Patient symptom-free.	Good therapeutic response. Patient previously controlled on ganglionic blocking agents.
40	A.D.	F	29	240/160	150/90	1 Tab daily.	2 weeks	Patient symptom-free.	Significant therapeutic response.

Each Tablet Contains: Reserpine 0.1 mg., Hydralazine 25 mg. and Hydrochlorothiazide 15 mg.

N.B.: Under column "Clinical Condition After Therapy," the phrase "Patient Symptom-Free" refers *only* to hypertensive symptoms and does not refer to the patients other disease(s) when one or more exists. (See Chart No. 1)

CHART No. 5

Group 2—Patients 29-48 Years Old

Decrease In Mean Arterial Blood Pressure

Case No.	Patient	Sex	Age	Mean Arterial Blood Pressure		
				Before Therapy mm. Hg.	After Therapy mm. Hg.	Decrease mm. Hg.
27	E.M.	M	48	153	135	18
28	R.W.	F	48	170	140	30
29	R.L.	F	47	290	110	180
30	V.A.	F	47	145	105	40
31	G.C.	M	46	185	118	67
32	J.T.	M	45	160	130	30
33	W.G.	M	45	200	125	75
34	E.H.	F	44	200	105	95
35	W.O.	M	42	160	100	60
36	B.C.	F	40	160	120	40
37	L.W.	F	36	205	145	60
38	F.L.	F	33	160	110	50
39	M.W.	F	32	165	128	37
40	A.D.	F	29	200	120	80

Average mean arterial blood pressure at beginning of therapy				182 mm. Hg.
Average mean arterial blood pressure at end of therapy				120 mm. Hg.
Average decrease in mean arterial blood pressure				62 mm. Hg.
Mean arterial blood pressure =				$\frac{\text{Systolic} \div \text{Diastolic}}{2}$

Cases ranged from mild to severe hypertension, without crises, and no emergencies existed.

Seven patients in the series (17.5%) had never before responded to other types of antihypertensive agents.

Slight untoward reactions occurred in six patients (15%), but these were of a minor nature, some dizziness, which disappeared when the dosage was reduced.

Conclusions

The antihypertensive activity of a drug combination containing reserpine 0.1 mg., hydralazine 25 mg., and hydrochlorothiazide 15 mg. evidently is greater than the sum total of each drug when given alone in their established dosage range.

The drug combination under study contains sub-therapeutic doses when compared with the dose of each drug given independently. Therefore, the total daily intake of each of the three drugs in this compound is so small that it places the toxicity quotient and untoward reactions at their very minimum.

The therapeutic effects of this compound are these: reserpine provides the necessary calming

and heart-slowng effects so often desirable in the treatment of hypertensives; hydralazine curtails the compensatory release of renal pressor substances by promoting blood flow to ischemic kidneys, thus eliminating a possible cause of elevated blood pressure; by relaxing cerebral vascular tone, hydralazine helps to relieve minor cerebral hypertensive symptoms; hydrochlorothiazide induces effective diuresis and reduces edema due to cardiac decompensation. This often eliminates the need for unpalatable salt-free diets.

Most hypertensives require more than one drug to control their blood pressure. Patients with moderate to severe hypertension, especially those with anxiety, relative renal or cerebral ischemia and/or cardiac decompensation may be readily managed on this compound, without any major therapeutic problems.

415 Mulberry Street

References

- Best, C. H., and Taylor, N. B.: The Physiological Basis of Medical Practice. 4th Ed., p. 130-136, Williams & Wilkins Co., Pub. 1945.
- Cecil, R. L., and Loeb, R. F.: Textbook of Medicine, p. 1070-1072, W. B. Saunders & Co., Pub., 8th Ed., 1951.
- Corcoran, A. C., Dustan, H. P., Taylor, R. D., and Page, I. H.: Am. J. Med., 17:303, 1954.
- Page, I. H.: J. Am. Med. Assoc., 140:457, 1949.
- Denny, J. L., Frasher, W. G., and Hoytt, D. D.: Clinical Evaluation of Drug Therapy in Hypertension. Am. J. Med. Sci., 230:2,169-177 (Aug.) 1955.
- Hughes, W., Dennis, E., McConn, R., Ford, R., and Moyer, J. H.: Reserpine (Serpasil) in the Treatment of Hypertension. Am. J. Med. Sci., 228:1,21-35 (July) 1954.
- Finnerty, F. A., Jr., and Sites, J. G.: The Value of Parenteral Reserpine in Acute Hypertension. Am. J. Med. Sci., 229:4,379-385 (April) 1955.
- Hughes, W. M., Moyer, J. H., and Daeschner, W. C., Jr.: Parenteral Reserpine in Treatment of Hypertensive Emergencies. A.M.A. Arch. Int. Med., 95:1, (April) 1955.
- Cotten, H. B., Herren, W. S., McAdory, B. S., and Klapper, M. S.: Effects of Rauwolfia Serpentina in Patients with Hypertension. Am. J. Med. Sci., 230:4,408-414 (Oct.), 1955.
- Schroeder, H. A.: The Effect of 1-Hydrazinophthalazine in Hypertension. Circ., 5:1,28-37 (Jan.), 1952.
- Taylor, R. D., Dustan, H. P., Corcoran, A. C., and Page, I. H.: Evaluation of 1-Hydrazinophthalazine (Apresoline) in Treatment of Hypertensive Disease. A.M.A. Arch. Int. Med., 90:6,734-749 (Dec.) 1952.
- Johnson, R. L., Freis, E. D., and Schnaper, H. W.: Clinical Evaluation of 1-Hydrazinophthalazine (C-5968) in Hypertension. Circ. 5:836-841 (June) 1952.
- Hafkenschiel, J. H., and Lindauer, M. A.: 1-Hydrazinophthalazine (Apresoline) in the Treatment of Hypertension: A Two Year Study. Circ. 7: 52-27 (Jan.) 1953.
- Denney, J. L., Frasher, W. G., and Hoytt, D. D.: Clinical Evaluation of Drug Therapy in Hypertension. Am. J. Med. Sci., 230:2,169-177 (Aug.) 1955.
- Stuppy, L. J., and Tober, J. N.: Treatment of Hypertension with Reserpine (Serpasil) Alone and in Combination with Hydralazine (Apresoline). Angiol., 6:3,258-259, 1955.
- Hughes, W. M., Dennis, E., and Moyer, J. H.: Treatment of Hypertension with Oral Reserpine Alone and in Combination with Hydralazine of Hexamethonium. Am. J. Med. Sci., 229: 2,121-134 (Feb.) 1955.

17. Lee, R. E., Seligmann, A. M., Goebel, D., Fulton, L. A., and Clark, M. A.: Reserpine-Hydralazine Combination Therapy of Hypertensive Disease, with Hydralazine in Doses Generally Below the "Toxic Range." *Ann. Int. Med.*, 44:3,456-465 (Mar.) 1956.
18. Dupler, D. A., Greenwood, R. J., and Connell, J. T.: Present Status of the Treatment of Hypertension. *J.A.M.A.* 174:2,107-110 (Sept. 10) 1960.
19. Brest, A. N., Kodama, R., Duarte, C., Naso, F., and Moyer, J. H.: Treatment of Hypertension. *Geriatr.*, 21-26 (Jan.) 1961.
20. Brest, A. N., and Moyer, J. H.: Newer Approaches to Anti-hypertensive Therapy. *J.A.M.A.* 172:10,1041-1044 (Mar. 5) 1960.
21. Grollman, A.: Clinical Pharmacology of Antihypertensive Agents. *Clin. Pharm. & Ther.* 1:6,735-747.
22. Fallis, N., and Ford, R. V.: Electrolyte Excretion and Hypertensive Response. *J.A.M.A.* 176:7,581-584 (May 20) 1961.
23. Page, I. H.: Treatment of Essential and Malignant Hypertension. *J.A.M.A.* 147:14,1311-1318 (Dec. 1) 1951.
24. Gifford, R. W.: Use of Diuretics in Hypertension. *J.A.M.A.* 177:1,149-141 (July 8) 1961.

Coming Meetings

University of Colorado Medical Center, Eighth Annual General Practice Review, Denver, Jan. 7-13, 1962.

University of Texas Postgraduate School of Medicine, El Paso Division, Postgraduate Course, El Paso County Medical Society Turner Home, 1301 Montana Avenue, Jan. 21, 1962.

International Medical Assembly of Southwest Texas, 26th Annual Session, Granada Hotel, San Antonio, Jan. 29-31, 1962.

District One, Texas Medical Association, Annual Meeting, Pecos Country Club, Pecos, Texas, Feb. 3, 1962.

American College of Allergists, Graduate Instructional Course and 18th Annual Congress, Hotel Radisson, Minneapolis, April 1-6, 1962.

Southwest Obstetrical and Gynecological Society, 12th Annual Meeting, Camelback Inn, Phoenix, Oct. 10-13, 1962.

Southwestern Medical Association, 44th Annual Meeting, Western Skies Hotel, Albuquerque, Oct. 18-20, 1962.

Outline of Fractures Including Joint Injuries: By JOHN CRAWFORD ADAMS, published by E. S. Livingston, Edinburgh & London 1960.

This is an excellent outline of the treatment of fractures. It is felt that this would be a fine, most useful book in the hands of interns and residents. The fractures are beautifully and clearly illustrated. All doctors who encounter fractures in their practice could benefit by this excellent manual. The healing of fractures in good so-called functional position, is emphasized in the beginning of the book and this is a most useful thing for everyone who treats fractures to keep in mind. In other words, it shows that fractures do not have to be perfectly reduced in order for the results and x-ray appearances, too, later on, to be excellent.

There is an excellent general discussion at the beginning of the book. There is also a systematic review of treatment of fractures in all locations starting with the spine and then going to the upper extremity and then the lower extremity. It is very easy to look up fractures in a given area of the body. Therefore, since the fractures are beautifully demonstrated and clearly outlined in treatment, I feel that this is also an excellent book for the busy practitioner.

W. Compere Basom, M.D.
El Paso

Pecos Physician is Rotary Officer

Edwin W. Schmidt, a physician and surgeon in Pecos, Texas, is serving as district governor of Rotary International, world-wide service organization, for 1961-62. He was elected to that office at Rotary's convention in Tokyo, Japan, last June. As governor of Rotary district 552 in New Mexico and Texas, he supervises 49 Rotary clubs in the area. During his term in office he is visiting each of the clubs to offer counsel and assistance on Rotary service activities and administration.



GUNNING & CASTEEL DRUG STORES

"There is no finer prescription service . . . anywhere"

14 Conveniently Located Stores

El Paso, Texas



Southwestern Physicians' Directory



SAUL B. APPEL, M.D.

Certified by the American Board of Internal Medicine

CARDIOVASCULAR DISEASES

Suite 10E 1501 Arizona Ave.
KE 3-5201 EL PASO MEDICAL CENTER El Paso, Texas

ARTESIA MEDICAL CENTER

Henry L. Wall, M.D., Suite A Phone:
General Practice SH 6-2311
Robert W. Harper, M.D., Suite B SH 6-2531
Surgery and Gynecology
Owen C. Taylor, Jr., M.D., Suite C SH 6-2521
General Practice
C. Pardue Bunch, M.D., Suite D SH 6-3321
General Practice
Gerald A. Slusser, M. D., Suite E SH 6-2441
Surgery
X-ray and Medical Laboratory SH 6-4200
Fourth and Washington Artesia, New Mexico

ANDREW M. BABEY, M. D.

Certified by the American Board of Internal Medicine

CARDIOVASCULAR DISEASES

250 West Court Avenue Jackson 4-4481 Las Cruces, N. M.

OTTO L. BENDHEIM, M. D.

DIPLOMATE AMERICAN BOARD OF PSYCHIATRY &
NEUROLOGY

5051 N. 34th Street 264-4111 Phoenix, Arizona

RAYMOND J. BENNETT, M. D.

Diplomate of the American Board of Neurology and Psychiatry

PRACTICE LIMITED TO NEUROPSYCHIATRY

Suite 7A El Paso Medical Center 1501 Arizona Avenue
Phone KE 2-1177 El Paso, Texas

JACK A. BERNARD, M.D., F.A.C.P.

Diplomate American Board Internal Medicine

INTERNAL MEDICINE

CARDIOVASCULAR DISEASES

Suite 3C El Paso Medical Center 1501 Arizona Avenue
Phone KE 3-8151 El Paso, Texas

VICTOR M. BLANCO, M.D., F.A.C.S.

Diplomate of the American Board of Surgery

GENERAL AND CANCER SURGERY

205 University Towers Building

1900 N. Oregon St. KE 3-5519 El Paso, Texas

CLEMENT C. BOEHLER, M. D., F.A.C.S.

H. W. DEMAREST, M.D., F.A.C.S.

Diplomates American Board Obstetrics and Gynecology

Suite 8-A Medical Center 1501 Arizona Avenue
Phone KE 2-6591 El Paso, Texas

FREDERICK P. BORNSTEIN, M.D.

Certified by the American Board of Pathology
in Pathologic Anatomy and Forensic Pathology

102 University Towers Bldg.

1900 N. Oregon St. KE 2-3901 El Paso, Texas

LOUIS W. BRECK, M.D.

W. COMPERE BASOM, M.D.

MORTON H. LEONARD, M.D.

MARIO PALAFOX, M.D.

ZIGMUND W. KOSICKI, M.D.

ADRIAN L. GRASS, M.D.

The El Paso Orthopaedic Surgery Group

1220 N. Stanton St. Telephone KE 3-7465 El Paso, Texas

ROBERT J. CARDWELL, M.D.

(Diplomate American Board of Obstetrics and Gynecology)

608 University Towers Building

1900 N. Oregon St. KE 3-7587 El Paso, Texas

ROBERT N. CAYLOR, M.D.

Practice Limited to Ophthalmology

508 University Towers Building

1900 N. Oregon St. KE 3-4909 El Paso, Texas

WILLIAM I. COLDWELL, M.D.

Certified by the American Board of Internal Medicine

INTERNAL MEDICINE

501 University Towers Building

1900 N. Oregon St. KE 2-2661 El Paso, Texas

BRANCH CRAIGE, M.D., F.A.C.P.

(Certified by American Board of Internal Medicine)

INTERNAL MEDICINE

Suite 5B El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-7121 El Paso, Texas



Southwestern Physicians' Directory



E. S. CROSSETT, M.D.

Diplomate American Board of Thoracic Surgery

GEORGE W. IWEN, M.D.
THORACIC SURGERY

Cardiovascular Surgery Broncho-Esophagology
Suite 11-D KE 3-8511 or KE 2-2474 1501 Arizona Ave.
El Paso Medical Center El Paso, Texas

WICKLIFFE R. CURTIS, M. D., F.A.C.S.

JAMES D. BOZZELL, M.D., F.A.C.S.

Diplomates American Board of Urology

PRACTICE LIMITED TO UROLOGY

Suite 38 El Paso Medical Center 1501 Arizona Avenue
Phone KE 3-1426 El Paso, Texas

RITA L. DON, M.D.

Allergy

102 University Towers Building

1900 N. Oregon St. KE 2-3901 El Paso, Texas

ANTONIO DOW, M.D., F.A.C.S.

(Diplomate of American Board of Surgery)

GENERAL SURGERY

205 University Towers Building

1900 N. Oregon St. KE 2-7305 El Paso, Texas

HAROLD D. DOW, M.D.
FREDERICK J. KOBERG, M.D.

General Practice — Surgery

Box 546
206 N. W. 8th Phone PL 8-3641 Seminole, Texas

H. EDWARD DOWNS, M.D.

Internal Medicine

511 University Towers

1900 N. Oregon St. KE 2-9664 El Paso, Texas

JOHN A. EISENBEISS, M.D., F.A.C.S.

WILLIAM B. HELME, M.D.

Diplomates of the American Board of Neurological Surgery

NEUROSURGERY

926 E. McDowell Road AL 4-3151 Phoenix, Arizona

WARD EVANS, M.D., F.A.C.S.

(Diplomate American Board of Surgery)

SURGERY

608 University Towers Building

1900 N. Oregon St. KE 3-7587 El Paso, Texas

LESTER C. FEENER, M.D., F.A.C.P.

Diplomate American Board of Internal Medicine

INTERNAL MEDICINE

CARDIOVASCULAR DISEASES

404 Banner Bldg. KE 2-5771 El Paso, Texas

3500 Physicians Road

Southwestern Medicine

H. M. GIBSON, M.D., F.A.C.S.

Certified by American Board of Urology

PRACTICE LIMITED TO UROLOGY

512 University Towers Building

1900 N. Oregon St. KE 2-8130 El Paso, Texas

L. A. GLADSTONE, M.D.

W. D. FEINBERG, M.D.

INTERNAL MEDICINE

Bldg. 14, Suite D 1501 Arizona Ave.
El Paso Medical Center KE 3-2508 El Paso, Texas

JAMES J. GORMAN, M.D., F.A.C.P.

Diplomate American Board of Internal Medicine

DIAGNOSIS — GASTROENTEROLOGY

701 First National Building KE 2-6221 El Paso, Texas

J. LEIGHTON GREEN, M.D., F.A.C.S.

GENERAL and GYNECOLOGICAL SURGERY

Suite 3A El Paso Medical Center 1501 Arizona Avenue
Phone KE 2-9790 El Paso, Texas

SOL HEINEMANN, M.D., F.A.C.S.

Diplomate, American Board of Urology

UROLOGY

212 University Towers Bldg.

1900 N. Oregon St. LI 2-1539 El Paso, Texas

SOLOMON HELLER, M.D.

INTERNAL MEDICINE

Hematology—Endocrinology

505 University Towers Building

1900 N. Oregon St. KE 3-0406 El Paso, Texas



Southwestern Physicians' Directory



DRS. HART, BOVERIE, BLACK,
CLAYTON, GREEN & WHITE

PATHOLOGICAL AND CLINICAL LABORATORIES
X-RAY DIAGNOSIS AND THERAPY

Radioactive
Isotopes

Cobalt
Beam Therapy

Pathology

M. S. HART, M.D.

C. L. GREEN, M.D.

Diplomates American Board of Pathology

R. F. BOVERIE, M.D.

G. L. BLACK, M.D.

R. S. CLAYTON, M.D.

J. E. WHITE, M.D.

Diplomates American Board of Radiology

MELVIN A. LYONS, M.S.H.A.

Business Manager

El Paso Medical Center
1501 Arizona Ave., Suite 2A
KE 3-4478

Medical Arts Building
415 E. Yandell Drive, Suite 105
KE 3-6926

EL PASO, TEXAS

HERBERT E. HIPPS, M.D.

ORTHOPEDIC SURGERY

1612 Columbus Ave.

4-4701

Waco, Texas

RUSSELL HOLT, M.D.

B. LYNN GOODLOE, M.D.

GENERAL and GYNCOLOGICAL SURGERY

MEDICAL ARTS BUILDING

415 East Yandell Blvd.

KE 3-3443

El Paso, Texas

RALPH H. HOMAN, M.D., F.A.C.P.

CARDIOLOGY

ROBERT B. HOMAN, JR., M.D., F.A.C.S.

DISEASES OF THE CHEST — THORACIC SURGERY

Suite 7D
Phone KE 3-1409

El Paso Medical Center

1501 Arizona Avenue
El Paso, Texas

GEORGE W. HORTON, M.D.

JOSEPH D. McGOVERN, JR., M.D.

PRACTICE LIMITED TO ORTHOPEDICS

513 West 4th

FEderal 2-01B3

Odessa, Texas

LOUIS G. JEKEL, M.D.

ROBERT H. SNAPP, M.D.

Diplomates American Board of Dermatology

DERMATOLOGY

550 W. Thomas Rd.

CR 4-4901

Phoenix, Ariz

W. A. JONES, M.D.

Diplomate American Board of Neurological Surgery

K. ZOLFOGHARY, M.D.,

NEUROLOGICAL SURGERY

Suite 1C

El Paso Medical Center

1501 Arizona Avenue

KE 2-7579, KE 3-9076

El Paso, Texas

G. H. Jordan, M.D., F.A.C.S.

C. E. Webb, M.D., F.A.C.S.

DRS. JORDAN AND WEBB

Diplomates American Board of Surgery

GENERAL and GYNCOLOGICAL SURGERY

Suite 7B

El Paso Medical Center

1501 Arizona Ave.

Phone KE 2-1693

El Paso, Texas

LINDELL M. KINMAN, M.D.

Diplomate American Board of Urology

UROLOGY

300 West Alameda

Phone MA 2-4111

Roswell, N. Mex.

M. NATHAN KLEBAN, M.D.

Certified by American Board of Internal Medicine

Internal Medicine

610 University Towers Building

1900 N. Oregon St.

KE 2-7079

El Paso, Texas

GILBERT LANDIS, M.D., F.A.C.S.

Diplomate American Board of Obstetrics & Gynecology

OBSTETRICS, GYNECOLOGY

and GYNCOLOGICAL SURGERY

Suite 15-D

KE 3-5023

1501 Arizona Ave.

El Paso Medical Center

El Paso, Texas

ROYCE C. LEWIS, JR., M.D.

Diplomate American Board of Orthopedic Surgery

ORTHOPEDIC SURGERY and SURGERY OF THE HAND

1910 Knoxville St.

PO 3-8281

Lubbock, Texas

A. L. LINDBERG, M.D.

Neoplastic Diseases

TUCSON TUMOR CLINIC

721 N. 4th Ave.

MA 3-2531

Tucson, Arizona

CHARLES P. C. LOGSDON, M.D.

CARDIOLOGY

415 E. Yandell Blvd.

KE 3-7916

El Paso, Texas

Maximal bending before medication



ROBAXIN Injectable administered



Dramatic improvement 15 minutes later



Factual Clinical Data: Male patient with marked spasm of right lumbar region found even slight bending extremely painful. Fifteen minutes after administration of 10 cc. of ROBAXIN Injectable, spasm had disappeared and patient could bend without pain. Photographs used with permission of patient.

References: 1. Carpenter, E. B. Southern M.J. 51:627, 1958. 2. Farley, H. F. JAMA 167:16, 1958. 3. Grisolia, A. and Thomson, J. E. M. Clin. Orthopaedics 13:299, 1959. 4. Levintan, E. O., and Vaccarino, F. P. Current Therap. Res. 2:497, 1960. 5. Lewis, W. B. California Med. 90:26, 1959. 6. O'Doherty, D. S., and Shields, C. D. JAMA 167:160, 1958. 7. Park, H. W. JAMA 167:168, 1958. 8. Plumb, C. S. Journal Lancet 78:531, 1958. 9. Poppen, J. L., and Flanagan, M. E. JAMA 171:298, 1959. 10. Schaubel, H. J. Orthopedics 1:274, 1959.

In a matter of minutes



"excellent" relief^{4,10} in skeletal muscle spasm with

Robaxin[®]

INJECTABLE Methocarbamol, Robins
U.S. Pat. No. 2770649



- "... subjective relief of pain usually began within ten minutes..."¹⁰
- "... a valuable therapeutic agent for the treatment of acute disorders involving skeletal muscle spasm."⁴
- "... effective in producing immediate relaxation of paravertebral muscle spasm in patients who have undergone cervical and lumbar laminectomies."⁹

...for continuing relief without drowsiness

Robaxin[®]

TABLETS Methocarbamol, Robins



Ten published studies with 474 patients show ROBAXIN Injectable and ROBAXIN Tablets beneficial in 89% of cases.¹⁻¹⁰

- "... a superior skeletal muscle relaxant in acute orthopedic conditions."¹
- "An excellent result, after methocarbamol administration, was obtained in all patients with acute skeletal muscle spasm."⁶
- "In no instance was there decrease in intensity of simple reflex responses or voluntary muscular strength."⁷

Supply: ROBAXIN Injectable, 1.0 Gm. methocarbamol in 10-cc. ampul. ROBAXIN Tablets, 0.5 Gm. (white, scored) in bottles of 50 and 500.

Also available, for oral use when severe pain accompanies skeletal muscle spasm: ROBAXISAL Tablets (Robaxin with Aspirin) in bottles of 100 and 500. ROBAXISAL-PH (Robaxin with Phenaphen[®]) in bottles of 100 and 500.

A. H. ROBINS CO., INC., RICHMOND 20, VIRGINIA
Making today's medicines with integrity ... seeking tomorrow's with persistence



Southwestern Physicians' Directory



TRUETT L. MADDOX, D.D.S.

ORAL SURGERY

Suite 12A El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-3659 El Paso, Texas

WALTER B. MANTOOTH, JR., M. D.

JOE M. LEHMAN, M.D.

Dermatology and Cancer of the Skin

Suite 101 Lubbock
3801 19th Street Swift 9-4359 Texas

GEORGE B. MARKLE, IV, M.D.

Diplomate of the American Board of Surgery

GENERAL and GYNECOLOGICAL SURGERY

911 North Canal TU 5-5240 Carlsbad, New Mexico

MARSHALL CLINIC

I. J. Marshall, M.D.

General Surgery and Diagnosis

U. S. Marshall, M.D.

General Surgery and General Practice

E. A. Latimer, M.D.

General Practice

C. H. Fowler, M.D.

Internal Medicine and Cardiology

Thomas J. Jones, M.D.

Diseases of the Skin and Allergies

H. D. Johnson, Jr., D.D.S.

ROSWELL NEW MEXICO

HOWARD J. H. MARSHALL, M.D.

Member American Academy of General Practice

GENERAL PRACTICE

8ldg. 14E 1501 Arizona Ave.
El Paso Medical Center KE 2-2431 El Paso, Texas

JAMES R. MORGAN, M.D.

Certified by American Board of Obstetrics & Gynecology

OBSTETRICS and GYNECOLOGY

Suite 3A El Paso Medical Center 1501 Arizona Ave.
KE 3-2265 El Paso, Texas

A. WILLIAM MULTHAUF, M.D., F.A.C.S.

UROLOGICAL DIAGNOSIS AND SURGERY

1315 First National Bldg. KE 3-8986 El Paso, Texas

WALLACE E. NISSEN, M.D., F.A.C.S.

W. W. KRIDELBAUGH, M.D., F.A.C.S.

GENERAL SURGERY

Medical Arts Square
801 Encino Place, Suite 35 3-2251 Albuquerque, N. M.

F. KEITH OEHLISCHLAGER, M.D.

OBSTETRICS & GYNECOLOGY

1167 E. 42nd St. Sherwood Medical Center Phone
Suites 5 & 6 Odessa, Texas EM 6-4447

THE ORTHOPEDIC CLINIC

ORTHOPEDIC SURGERY

W. A. Bishop, Jr., M.D., F.A.C.S.*

Alvin L. Swenson, M.D., F.A.C.S.*; Ray Fife, M.D., F.A.C.S.*

Sidney L. Stovall, M.D., F.A.C.S.*

Thomas H. Taber, Jr., M.D., F.A.C.S.*; Robert A. Johnson, M.D.

*Diplomates of the American Board of Orthopedic Surgery

2620 N. Third St. CRestwood 7-6211 Phoenix, Arizona

JAMES M. OVENS, M.D.

F.A.C.S., F.I.C.S.

Diplomate American Board of Surgery

CANCER AND TUMOR SURGERY

X-RAY AND RADIUM THERAPY

333 W. Thomas Road 279-7301 Phoenix, Ariz.

ROBERT E. PARKINS, D.D.S.

GENERAL DENTISTRY

Bldg. 1, Suite E 1501 Arizona Ave.
Phone KE 3-1245 El Paso Medical Center El Paso, Texas

JACK C. POSTLEWAITE, M.D.

Diplomate American Board of Internal Medicine

INTERNAL MEDICINE

Suite 5D 1501 Arizona Ave.
El Paso Medical Center KE 2-1385 El Paso, Texas

DONALD RATHBUN, M.D.

NEUROLOGY

and

Internal Medicine

Suite 4B KE 2-8778 1501 Arizona Ave.
El Paso Medical Center El Paso, Texas

VINCENT M. RAVEL, M.D.

GLEN A. STOKDYKE, M.D.

Diplomates American Board of Radiology

Radiology — Radio-Isotopes

Cobalt⁶⁰ — Teletherapy

101 University Towers Bldg.

El Paso KE 2-3459 Texas



Southwestern Physicians' Directory



HERMAN RICE, M.D.

Practice Limited to General Surgery

El Paso Medical Center

Bldg. 4-B 1501 Arizona Ave.
Phone KE 3-8051 El Paso, Texas

RISSLER-WOLLMANN CLINIC

ROSS W. RISSLER, M.D., F.A.C.C.

(Certified by the American Board of Internal Medicine)
INTERNAL MEDICINE — CARDIOLOGY

WALTER W. WOLLMANN, M.D., F.A.C.S.
(Certified by the American Board of Surgery)
GENERAL SURGERY

2001 Grant Ave. KE 3-1601 El Paso, Texas

CECIL A. ROBINSON, M.D., F.A.C.S.

Diplomate American Board of Orthopaedic Surgery

Orthopaedic Surgery

111 No. Pine Street JU 6-2541 Kermit, Texas

S. PERRY ROGERS, M.D.

W. HUNTER VAUGHAN, M.D.

(Diplomates American Board of Orthopedic Surgery)
ORTHOPEDIC SURGERY

Suite 2B El Paso Medical Center 1501 Arizona Ave.
Phone KE 2-4433 El Paso, Texas

WILLARD W. SCHUESSLER, M.D.

DONALD H. EWALT, M.D.

Diplomates of the American Board of Plastic Surgery
Plastic, Reconstructive Surgery and
Maxillo-facial Surgery

1501 Arizona Ave. Medical Center, Suite 4-C
El Paso, Texas

F. P. SCHUSTER, M.D.

S. A. SCHUSTER, M.D.

NEWTON F. WALKER, M.D.

BRADFORD HARDIE, M.D.

EYE, EAR, NOSE AND THROAT-BRONCHOSCOPY

First National Bldg. KE 2-1495 El Paso, Texas

O. J. SHAFFER, D.D.S., F.A.C.D.

(Diplomate American Board of Oral Surgery)

ORAL SURGERY

Suite 1D El Paso Medical Center 1501 Arizona Ave.
Phone KE 3-6742 El Paso, Texas

D. J. SIBLEY, JR., M.D.

GENERAL PRACTICE

Box 367 Phone 5B4 Ft. Stockton, Texas

EUGENE P. SIMMS, M.D.

— GENERAL PRACTICE —

Medical Arts Center

1213 Tenth Street HEMlock 7-1720 Alamogordo, N. M.

Leslie M. Smith, M.D. John C. Wilkinson, M.D.
H. D. Garrett, M.D.

DRS. SMITH, GARRETT & WILKINSON

Diplomates American Board of Dermatology

DISEASES OF THE SKIN

Suite 3D El Paso Medical Center 1501 Arizona Ave.
Phone KE 3-6172 El Paso, Texas

C. M. STANFILL, M.D.

Diplomate American Board of Otolaryngology

EAR, NOSE AND THROAT

SURGERY FOR DEAFNESS

Stapes Mobilization

507 University Towers Building

1900 N. Oregon St. KE 2-9449 El Paso, Texas

ROBERT HEALY STEVENS, B.S., M.D.

F.C.C.P.

ALLERGY — INTERNAL MEDICINE

1313 N. Second St. AL 4-8841 Phoenix, Arizona

C. S. STONE, M.D., F.A.C.S.

Express 3-5323

301 East Cain Street Hobbs, N.M.

JESSON L. STOWE, M.D.

GRAY E. CARPENTER, M.D.

GYNECOLOGY AND OBSTETRICS

2323 Montana Avenue KE 2-4631 El Paso, Texas

WINSLOW P. STRATEMEYER, M.D.

Diplomate American Board of Neurological Surgery

NEUROLOGICAL SURGERY

Suite 11A Office KE 2-9167 1501 Arizona Ave.
El Paso Medical Center Home JU 4-0553 El Paso, Texas



Southwestern Physicians' Directory



M. D. THOMAS, M.D.

Diplomate American Board of Anesthesiology

Suite 12-D

KE 3-3745

1501 Arizona Ave.

El Paso, Texas

El Paso Medical Center

ROBERT F. THOMPSON, M.D., F.A.C.S.

(Certified by American Board of Urology)

U R O L O G Y

301 University Towers Building

1900 N. Oregon St.

KE 2-4321

El Paso, Texas

TURNER'S CLINICAL

& X-RAY LABORATORIES

GEORGE TURNER, M.D.

DELPHIN von BRIESEN, M.D.

HELEN W. ANDERSON, M.D.

MEDICAL CENTER

1501 Arizona Ave.
Building No. 6

Phone: KE 2-4689
El Paso, Texas

HARRY H. VARNER, M.D.

LEIGH E. WILCOX, M.D.

RUSSELL L. DETER, M.D.

GENERAL SURGERY

Suite 5E

El Paso Medical Center

1501 Arizona Ave.

Phone KE 2-6529

El Paso, Texas

WILLIAM H. WADE, M.D., F.A.C.S.

Diplomate American Board of Surgery

GENERAL SURGERY

CARDIOVASCULAR SURGERY

El Paso Medical Center, 15-B

1501 Arizona Ave.

KE 2-8111

El Paso, Texas

RICHARD P. WAGGONER, M.D.

M.S. (SURG.), F.A.C.S.

GENERAL SURGERY

504 N. Richardson St.

Phone 208

Roswell, N. M.

GRADY M. WALLACE, M.D., D.A.B.O.

Practice Limited to the Eye

3801 19th Street

SW 9-4343

Lubbock, Texas

Hotel Dieu, Sister's Hospital

Fully Approved by the
Joint Commission on Accreditation
of Hospitals.

Latest Facilities For All Services.
Emergency Service Around
the Clock.

EL PASO, TEXAS

Hotel Dieu School of Nursing

Fully approved by the
National Nursing Accrediting
Service.

Applicants May Apply
To
Sister Aloysius, Director

EL PASO, TEXAS

Hotel Dieu School of Medical Technology

Fully Approved by the American
Medical Association, American
Society of Clinical Pathologists,
and Registry of Medical Tech-
nologists.

EL PASO, TEXAS

The Clinic-Hospital of San Angelo

D. D. WALL, M.D.

Obstetrics & Gynecology

R. M. FINKS, M.D.

Pediatrics

M. D. KNIGHT, M.D.

Surgery

W. H. BRAUNS, M.D.

Internal Medicine

ROY E. MOON, M.D.

Obstetrics & Gynecology

CHAS. F. ENGELKING, M.D.

Ear, Nose and Throat

DALE W. HAYTER, M.D.

Ophthalmology

R. A. MORSE, M.D.

Internal Medicine

RALPH R. CHASE, M.D.

Pediatrics

TOM R. HUNTER, M.D.

Surgery

H. W. DISERENS, M.D.

Pediatrics

Consultant in Pathology: LLOYD R. HERSHBERGER, M.D.

Consultants in Radiology: JOHN E. BALLARD, M. D.; JOHN G. BOLEN, M.D.

224-234 W. BEAUREGARD AVE.

J. B. ADCOCK, Administrator

SAN ANGELO, TEXAS

**Where's
the arthritic
this
morning?**



**Thanks to
Medrol
Medules,
he woke up
comfortable
and he's
already
on the go.**

The first long-acting oral steroid, Medrol Medules gives the arthritic patient therapeutic action that continues through the night. In many cases, morning stiffness can become a thing of the past.

The slow, steady release of methylprednisolone often provides greater effectiveness, with less frequent administration and sometimes a reduced total daily dosage.

Many of your arthritic patients, too, can wake up comfortable on Medrol Medules.

Dosage: The following dosages are recommended in rheumatoid arthritis:

	<i>Initial</i>	<i>Maintenance</i>
Severe	12 to 16 mg.	6 to 12 mg.
Moderately severe	8 to 10 mg.	4 to 8 mg.
Moderate	6 to 8 mg.	2 to 6 mg.
Children	6 to 10 mg.	2 to 8 mg.

With Medrol Medules, it may be possible to reduce the total daily dose by $\frac{1}{2}$.

Indications and effects: Medrol benefits (anti-inflammatory, antiallergic, anti-rheumatic, antileukemic, antihemolytic) have been demonstrated in acute rheumatic carditis, rheumatoid arthritis, asthma, hay fever and allergic disorders, dermatoses, blood dyscrasias, and ocular inflammatory disease involving the posterior segment.

Precautions and contraindications: Because of Medrol's high therapeutic ratio, patients usually experience dramatic relief without developing such possible steroid side effects as gastrointestinal intolerance, weight gain or weight loss, edema, hypertension, acne, or emotional imbalance.

As in all corticotherapy, however, there are certain cautions to be observed. The presence of diabetes, osteoporosis, chronic psychotic reactions, predisposition to thrombophlebitis, hypertension, congestive heart failure, renal insufficiency, or active tuberculosis necessitates careful control in the use of steroids. Like all corticosteroids, Medrol is contraindicated in patients with arrested tuberculosis, peptic ulcer, acute psychoses, Cushing's syndrome, herpes simplex keratitis, vaccinia, or varicella.

Approximately 135
tiny "doses"
mean smoother steroid
therapy

Each capsule contains: Medrol
(methylprednisolone) 2 mg. or 4 mg.
Supplied in bottles of 30 and 100.

**Medrol^{*}
Medules^{*}**

Upjohn 75th year

*TRADEMARK, REG. U.S. PAT. OFF.

COPYRIGHT 1961, THE UPJOHN COMPANY

JUNE, 1961

THE UPJOHN COMPANY, KALAMAZOO, MICHIGAN

Give Us A Trial On Your

TAYLOR BACK BRACE

Orders

- Send the following measurements: from level of shoulders to tip of sacrum; circumference of pelvis above trochanters; circumference of waist; height and weight.

CHRISTOPHER'S BRACE AND LIMB CO.

2231 Montana St.

KE 2-9690

EL PASO, TEXAS

UNIFORMS

Doctors • Nurses • Interns • Technicians

Poplin, Nylon, Dacron
White and Colors

SURE-FIT UNIFORM CO.

612 N. Oregon St.

KE 2-1374

El Paso, Texas

C. G. McDow and Son, Props.

Rio Grande Pharmacy

419-421 South Stanton St.

KE 2-4473

El Paso, Texas

3500 Physicians Read

Southwestern Medicine

Only at the Popular in El Paso . . .

FINE HARTMANN LUGGAGE

POPULAR DRY GOODS CO.

TAYLOR-SIMPKINS, INC.

MEDICAL OXYGEN

2123 Texas St.

KE 3-0952

El Paso, Texas

Nights — Call LO 5-0359, or LO 5-3060



MEDICAL CENTER PHARMACY

YOUR PROFESSIONAL PHARMACY
IN THE EL PASO MEDICAL CENTER

1501
ARIZONA AVE.

PHONE KE 2-6968-69

EL PASO,
TEXAS

We Carry A Complete Line of

DIABETIC FOODS AND SUPPLIES

McKEE PRESCRIPTION PHARMACY

107 East San Antonio Ave., El Paso

Dial KE 2-2693

For Your Convenience

Use Our Handy Charge-A-Plate Service!

the white house

El Paso, Texas

FISCHBEIN BROS.

CUSTOM TAILORS

309 N. Oregon St.

El Paso, Texas

RICHARD E. MARTIN

MARTIN MORTUARY

Dial KE 2-3691

710 N. Stanton St.

El Paso, Texas

HARDING AND ORR

Funeral Home



EL PASO, TEXAS

320 Montana Ave.

KE 3-1646

Kaster & Maxon

Funeral Home

El Paso, Texas

KE 2-3431



Southwestern General Hospital

Accredited by the Joint Commission on Accreditation of Hospitals

Member Hospital:

American Hospital Association
Texas Hospital Association
Blue Cross of Texas

COTTON AVENUE AND ERIE STREET • EL PASO, TEXAS

OVERTON CLINIC

300 Hughes Building

PAMPA, TEXAS

M. C. Overton, Jr., M.D.
Surgery and Gynecology

E. S. Williams, M.D.
Pediatrics and Obstetrics

J. R. Donaldson, M.D.
Surgery

G. R. Hrdlicka, M.D.
Radiology

C. M. Lang, M.D.
Surgery

R. W. Moore, M.D.
Internal Medicine

DUTTON LABORATORIES

FREDERICK P. BORNSTEIN, M.D.
(Certified by American Board of Pathology)
Pathological Anatomy and Forensic Pathology

RITA L. DON, M.D.
(Associate Fellow, American College of Allergists)
Allergy and Clinical Pathology

JOHN B. FRERICH, M.D.
(Certified by American Board of Pathology)
Pathological Anatomy and Clinical Pathology

J. A. HANCOCK, Ph.D.
Consultant in Chemistry

616 Mills Bldg.
102 University Towers

KE 2-3901
El Paso, Texas



rhinal nose drops

**In Nasal Decongestant Therapy
when effective shrinkage
is desired in treating
Colds • Sinusitis
Allergic Rhinitis**

- Rapid and prolonged action
- Small dosage—well tolerated
- Physiological rationale

Contains:

Phenylephrine Hydrochloride 0.15%,
'Propadrine' Hydrochloride 0.3%
In an Isotonic Saline Menstruum.

*Samples on
request.*



*Prescribed by
physicians for
over 25 years.*

RHINOPTO COMPANY 3905 Cedar Springs • Dallas, Texas

Serving You 365 Days A Year

SOUTHWEST BLOOD BANKS

John B. Alsever, M.D.

General Medical Director

Federally Licensed and Supervised by Physi-
cians from the Southwest to Provide Blood
and Plasma of Highest Quality on a 24-Hour
Basis.

Albuquerque

Harlingen

El Paso

Houston

Phoenix

Lubbock

San Antonio

SOUTHWESTERN SURGICAL SUPPLY CO.

Hospital Supplies and Equipment

Physician's X-Ray Apparatus

Laboratory Equipment

Your distributor for leading manufacturer's equip-
ment and supplies — look to Southwestern for
products and service. Some of our complete lines
are listed for your convenience.

Air-Shields Equipment

Bard-Parker Company

Cambridge Instrument Co.

Becton-Dickinson Company

Clay-Adams Company

Ethicon Suture Corporation

Meals-On-Wheels

Hyland Laboratories

Shampaine Company

Johnson & Johnson

Simmons Company

J. Sklar Mfg. Company

Wilmot-Castle Co.

Warner-Chilcott Company

Our Sales & Service Representatives Cover the Southwest

Offices & Warehouses

EL PASO

ALBUQUERQUE

PHOENIX

Entering
our
third
decade
of
continuous service
to
medicine

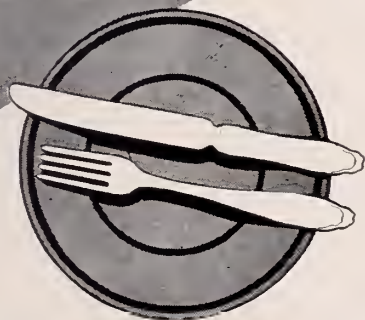
Owen

Manufacturers of
Vacon
Palvite
Phenoturic
Nutraderm

Owen Laboratories Division
Dallas

FETAMIN

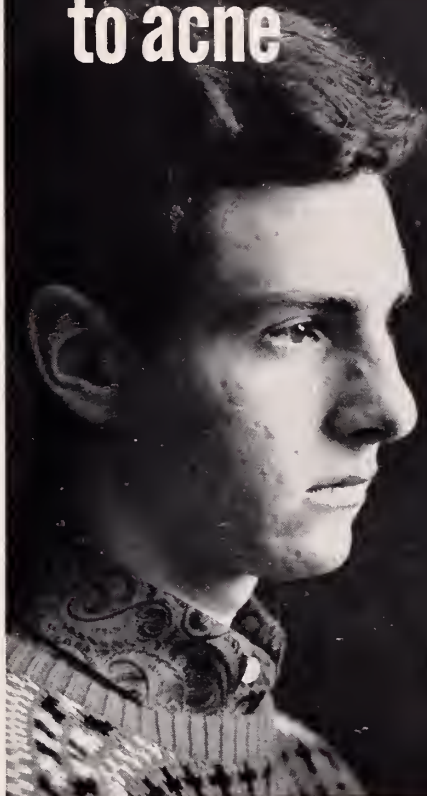
FOR OBESITY



- More Powerful
- Less Pressor Activity
- Avoids Nervous Side Effects
- Complete Dietary Supplement

Mission
PHARMACAL CO.
SAN ANTONIO, TEXAS

New approach to acne



pHisoHex[®] and pHisoAc[®] Cream

"No patient failed to improve" when pHisoHex (containing 3 per cent hexachlorophene) was added as the antibacterial wash to the standard treatment for acne. pHisoHex provides not only superior cleansing but also continuous antibacterial action for patients with acne. Now, with new pHisoAc keratolytic cream the management of patients with acne is simplified and even more effective. pHisoAc is applied topically once or twice daily to suppress and mask lesions and to dry, peel and degerm the skin. When used together, pHisoHex and pHisoAc are a potent complementary combination against acne.

Winthrop LABORATORIES
New York 18, N. Y.

I. Hodges, F.T.: GP 14:86, Nov., 1956.

pHisoHex and pHisoAc, trademarks reg. U. S. Pat. Off.

FOR COUGH AND COLD DEMONS...



NON-NARCOTIC

ULO[®]

for control of acute cough regardless of etiology

ULOMINIC[®]

for control of acute cough and associated allergic reactions

ULOGESIC[®]

for control of acute cough and for relief from associated muscular aches, pain and fever

ULO

ULOMINIC

ULOGESIC

INHIBITS COUGH IMPULSE FOR 4 TO 8 HOURS

the threshold of the medullary cough center is elevated while the cough reflex is not abolished.

COUNTERACTS IRRITATION IN PHARYNX, LARYNX, TRACHEA AND BRONCHI

inhibits tendency of histamine to cause edema of the nasopharyngeal mucosa, local irritation, and vasodilation.

RELIEVES CONGESTION

reduces postnasal discharge, lessens irritation to pharyngeal and laryngeal membranes.

MAKES VOLUNTARY COUGH MORE PRODUCTIVE

loosens and liquefies mucus, soothes irritated bronchial mucosa.

Ulogesic enlarges the therapeutic dimensions of Ulominic

ALLEVIATES ASSOCIATED ACHEs AND DISCOMFORTS AND ABORTS FEVER

elevates the pain threshold with an analgesic potency the same as acetanilid, with much less toxicity.

ULO[®]

non-narcotic antitussive molecule chlorphedianol HCl

DIAFEN[®]

fast-acting antihistaminic diphenylpyraline HCl

PHENYLEPHRINE HCl

sympathomimetic

GLYCERYL GUAIACOLATE

expectorant and demulcent

APAP

acetyl-p aminophenol analgesic and antipyretic

FORMULAS:

ULO SYRUP— Each 5 ml. teaspoonful contains:

chlorphedianol • HCl*
[alpha-(2-dimethylaminoethyl)-o-chlorobenzhydrol • HCl] 25 mg.
chloroform, U.S.P. 0.001 ml.
Alcohol 6.65 per cent in a pleasant flavored syrup base

ULOMINIC[®] SYRUP— Each teaspoonful (5 cc) contains:

chlorphedianol HCl*
[alpha-(2-dimethylaminoethyl)-o-chlorobenzhydrol • HCl] 15.0 mg.
diphenylpyraline HCl
(1-methyl-4-piperidyl-benzhydrol ether • HCl) 1.0 mg.
phenylephrine HCl 5.0 mg.
glyceryl guaiacolate 100.0 mg.
alcohol 6%

ULOGESIC[®]— Each tablet contains:

chlorphedianol HCl*
[alpha-(2-dimethylaminoethyl)-o-chlorobenzhydrol • HCl] 7.5 mg.
diphenylpyraline HCl
(1-methyl-4-piperidyl-benzhydrol ether • HCl) 0.5 mg.
phenylephrine HCl 2.5 mg.
glyceryl guaiacolate 25.0 mg.
acetaminophen 162.5 mg.

*Patents pending

INDICATIONS: For acute cough associated with:

Upper Respiratory Infections Bronchitis
Common Cold Pertussis Tracheitis
Influenza Pleurisy Laryngitis
Pneumonia Croup
Allergies (Ulominic and Ulogesic)

CONTRAINDICATIONS: Although no contraindications for ULOMINIC or ULOGESIC are known, they should be used only for acute cough.

CAUTION: Since ULOMINIC and ULOGESIC contain an antihistaminic agent, drowsiness may occur. As they also contain a sympathomimetic agent, they should be used with caution in coronary artery disease, glaucoma, hypertension, and hyperthyroidism.

SIDE EFFECTS:

ULO

These occur only occasionally and have been mild. Nausea and dizziness have occurred infrequently; vomiting and drowsiness rarely. As with all centrally acting drugs, an infrequent case may develop excitation, hyperirritability and nightmares. The symptoms disappear within a few hours after the drug is discontinued. In three cases (1 adult and 2 children) where the drug was continued in large or even excessive amounts after stimulation was present, hallucinations developed. Upon withdrawal of the medication, the patients recovered rapidly within a few hours.

ULOMINIC and ULOGESIC

Side effects from ULOMINIC or ULOGESIC occur occasionally and are mild. Nausea, dizziness, and dryness of the mouth occur infrequently; vomiting and drowsiness rarely.

DOSAGE:

ULO

Adults: 25 mg. (1 teaspoonful) 3 or 4 times daily as required.
Children: 6 to 12 years of age—12.5 to 25 mg. (½ to 1 teaspoonful) 3 or 4 times daily as required;
2 to 6 years of age—12.5 mg. (½ teaspoonful) 3 or 4 times daily as required.

ULOMINIC

Adults: One teaspoonful (5 cc) four times daily.
Children: 6 to 12 years—½ teaspoonful (2.5 cc) 4 times daily.
2 to 6 years—¼ teaspoonful (25 drops) 4 times daily.

ULOGESIC

Adults: Two tablets 4 times daily.
Children: 6 to 12 years—one tablet 4 times daily.

AVAILABILITY:

ULO SYRUP

Bottles 12 oz.

ULOMINIC SYRUP

Bottles 1 pint

ULOGESIC TABLETS

Bottles of 100 tablets.

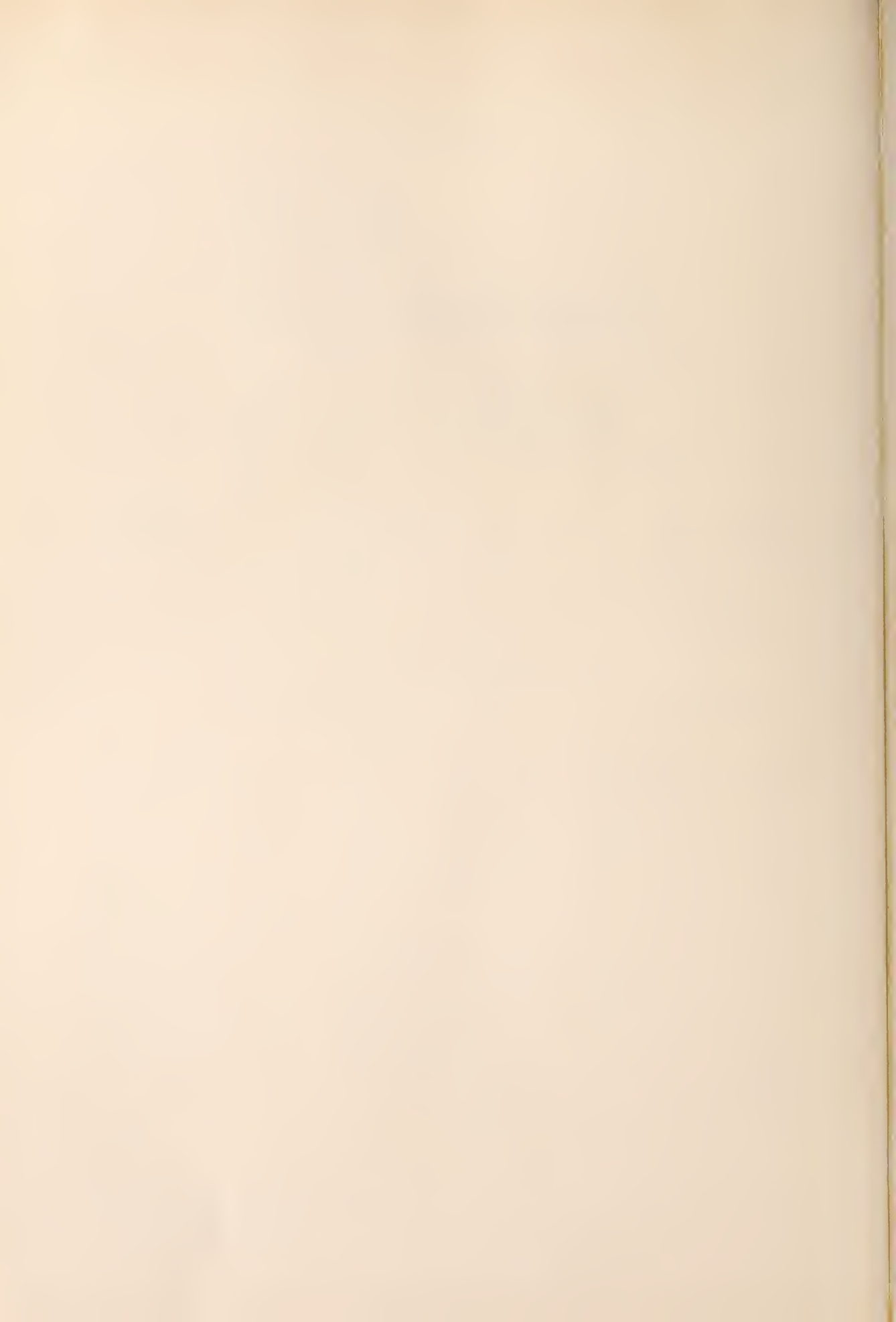
CAUTION: Federal Law prohibits dispensing without prescription.

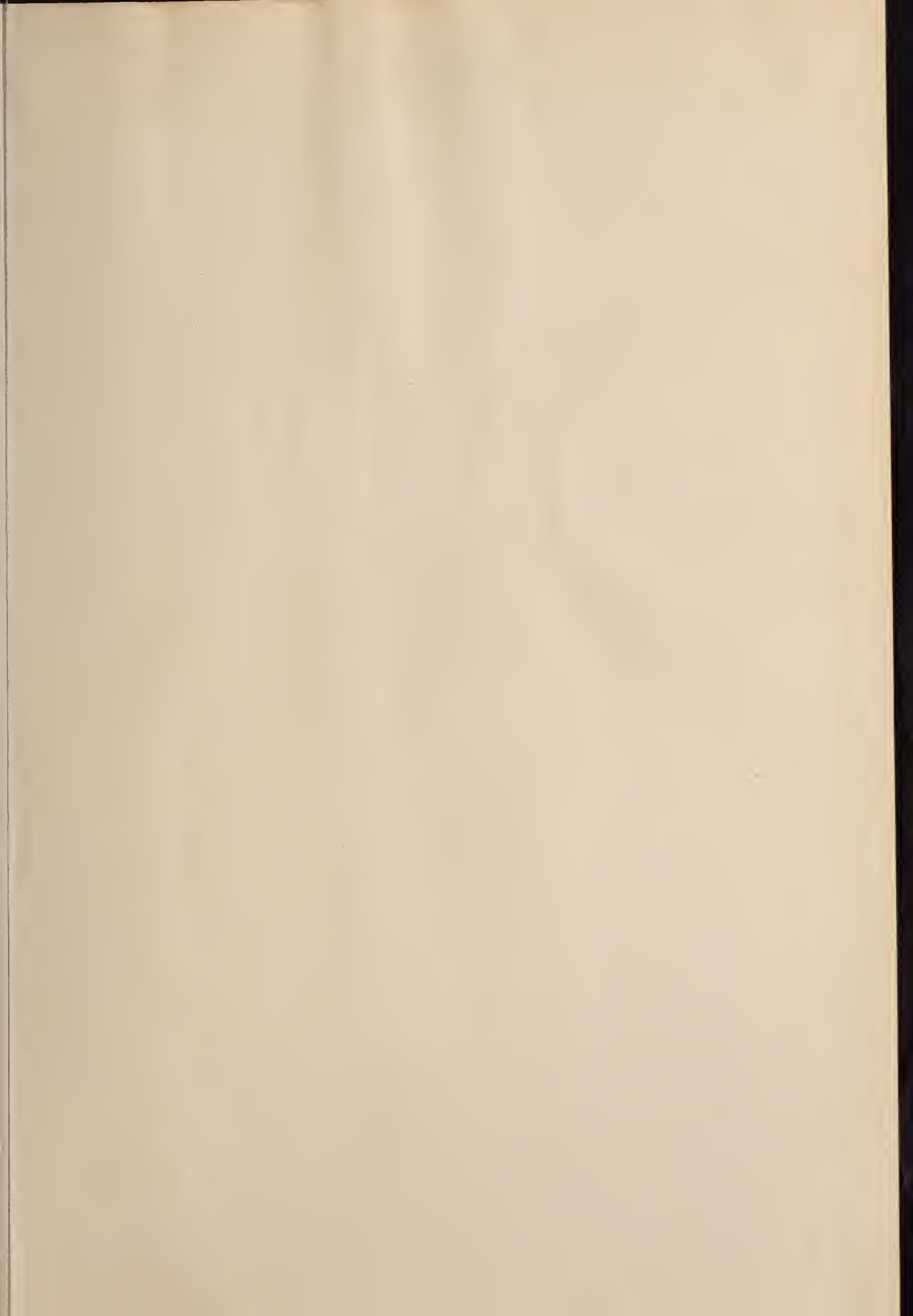


RIKER LABORATORIES, INC., Northridge, California

Janet Doe, Librarian
New York Academy of Medicine
2 East 103 Street
New York 29, New York







The New York Academy of Medicine

DUE IN TWO WEEKS UNLESS RENEWED.

NOT RENEWABLE AFTER 6 WEEKS

[illegible]



